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THE CARSON C. PECK MEMORIAL HOSPITAL

BY CHARLES F. NEERGAARD, CHAIRMAN OF THE BUILDING COMMITTEE

THE Carson C. Peck Memorial Hospital of Brooklyn is the result of an earnest effort to put into effect the most modern ideals of hospital construction, furnishings, equipment and administration. It is the result of a broad study of hospital conditions in the east and middle west and is a reduction to an operative system of the

tion of Brooklyn, assures the patients the utmost advantage in light and fresh air.

The building is handsome. The architects have carried out admirably one of the fundamental ideals of hospital construction, dignity, and beauty. The hospital is monumental in design, having a pillared front and an elevation of four stories and mansard; it has none of the aspect of the conventional hospital. A sweeping drive, ascending in a semi-circle from the street, adds to the attractiveness of the facade.

There are two smaller buildings flanking the hospital. On the east of the property is the laundry, garage and dormitory for hospital help and on the west is a comfortable and attractive home and training school for nurses.

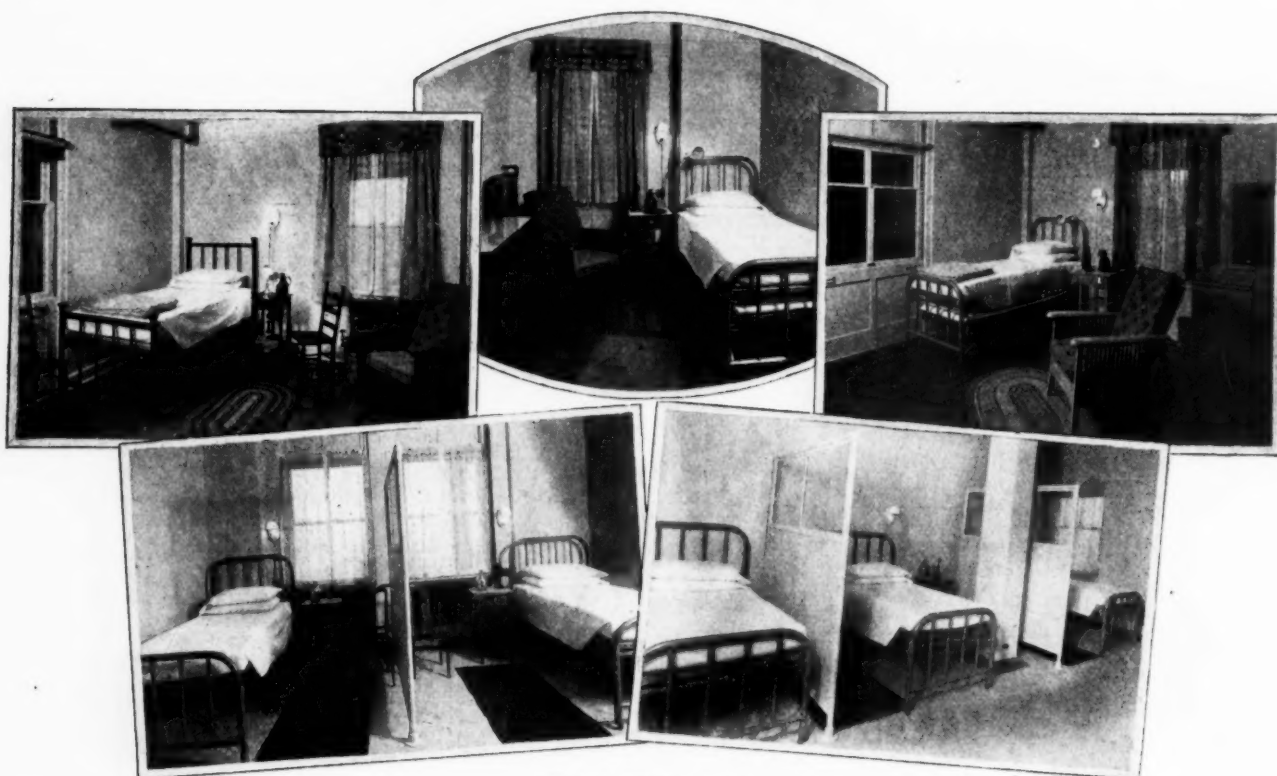
The interior of the building accords with the

information received from physicians, hospital superintendents and nurses. Many of the failures and defects noticed in other institutions have been avoided. The most modern appliances for the treatment of diseases have been provided.

The building occupies the center of a plot of nearly five acres, in a quiet residential section of Brooklyn. It is bounded by Troy Avenue, Kingston Avenue, Montgomery Street and Crown Street. Standing on an eminence it commands an unparalleled view, comprehending the city of New York, Prospect Park and to the south, the open sea. The locations being the highest sec-



Upper left hand—Nurses' reception room.
Center—The Nurses' Home.
Lower right hand—Typical bedroom in Nurses' Home.



Corner room showing standard lighting bracket, triple hung window giving access to solarium.
Two-bed semi-private room.

Typical private room.

Corner room of two-room and bath suite showing triple hung window through which a bed may be moved to the solarium.
Typical three-bed semi-private room.

impression given by its external aspect. There has been an effort to keep distinct and separate the technical side of the institution from that with which the patient comes in contact during periods of rest and convalescence. The forbidding sterilizers, stretchers and dressing carriages are conveniently located, yet kept concealed from casual view. The atmosphere of every room, whether it be ward, private room, sitting room, office or general reception room, has been made as cheerful and home-like as possible. This has been done in pursuance of a well considered plan, to which it is proper to advert, in order that the structural features and equipment to be described, may be understood.

Brooklyn owes this institution to the benevolence of the family of the late Carson C. Peck, a man of great philanthropic enthusiasms, who spent his life in the building up and directing of vast business enterprises. Those who were intimately dear to him desired that his monument should be representative of his intelligent and broad human kindness.

The trustees appointed to carry out the design of the founders were inspired by this ideal and considered it their duty to determine first what kind of a hospital was most urgently needed in Brooklyn, and second, how such an institution could be most perfectly created.

A survey, made of social conditions in the city,

showed that there was insufficient hospital provision for a most deserving class. We found that the patients receiving hospital treatment were classified as follows:

A—Charity ward patients who receive free treatment.

B—Part pay ward patients who pay a nominal sum for a bed in a ward.

C—Semi-private patients who can afford to pay a moderate fee for hospital service (though below hospital costs) who seek no charity, yet require privacy, cheerful surroundings, and good care.

D—Private room patients who can afford such rates of payment as yield a reasonable profit to the institution.

Accommodations for Middle Class

Class "C" is the largest in our great cities. It is the most neglected by hospitals. The rich and the poor can obtain ample accommodations and the most scientific treatment in any of our large hospitals. For the person in moderate circumstances to whom sickness and the need for hospital care come there are far too few beds available within his means. He is faced with the alternative of taking an expensive private room, or a bed in a general ward where there is no privacy and where he feels a loss of self respect in the acceptance of charity.

The board of trustees of the Carson C. Peck Memorial Hospital, planning their project to meet this state of facts, determined that the hospital should have a limited number of private rooms, but should devote the majority of its beds to the semi-private room patients, reserving a few beds for charity cases originating with the staff or the trustees.

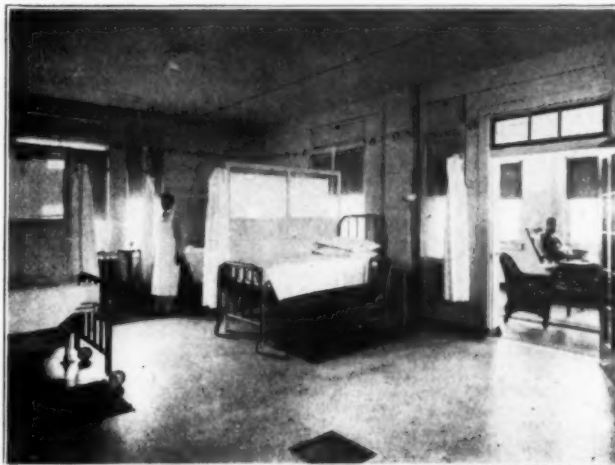
The writer of this article was appointed chairman of the building committee. He was aided by an extensive experience in hospital work and in building construction. To this he added such information as was obtainable by personal visits to a large number of our modern hospitals in the east and middle west. The use of a note book enabled him to bring back a knowledge of the best developments that special ingenuity and long study had effected in the different cities within the scope of his survey. Information was also sought from hospital superintendents and nurses concerning the best features of their institutions, and questions were asked to bring out the administrative difficulties resulting from defects of planning and construction, and from faults of equipment. Knowledge of mistakes in arrangement, that were disclosed in the performance of their various duties, were most helpful to us. We secured a large amount of data pertaining to every department of a hospital—not only sign posts of progress, but danger signals. This gave us a definite idea of what was desirable in every department of the hospital and enabled us to formulate two principles:

Waste of Space Avoided

First, the average hospital contains a great deal of waste space and superfluous equipment, which increases the initial cost and is a constant expense for upkeep and maintenance. Therefore, with respect to space, we adopted as a motto—"Just large enough."

Second, all features of the plan must be subordinated to convenience and efficiency of operation.

With this ideal in mind, the necessity of its fulfillment required a close co-operation with the architects and contractors in order to get the most desirable plan, the best material and the most approved equipment and furnishings possible to obtain.

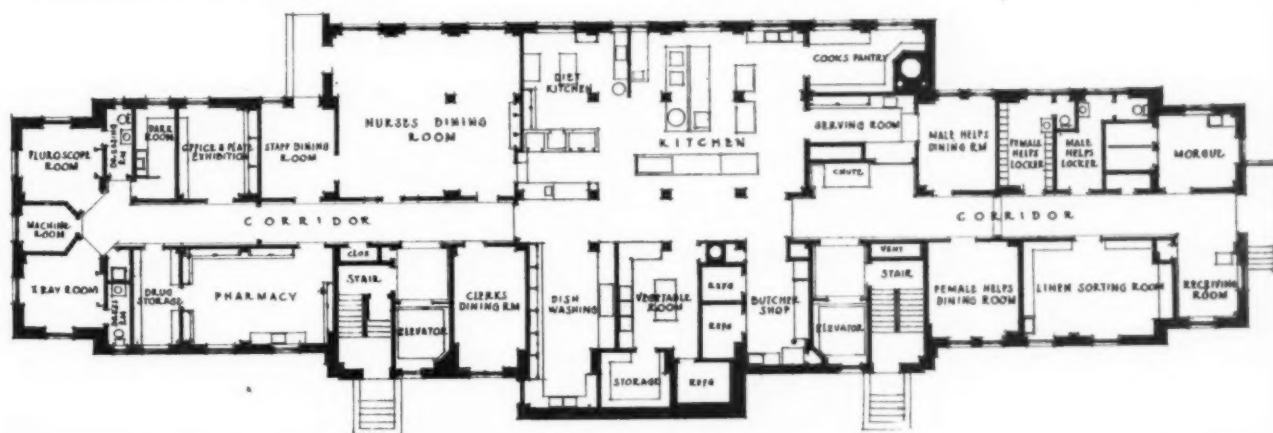


Eight-bed, semi-private ward. Distinctive features are cubicle partitions and curtain screens, the special beds mounted on large castors, the night light in the floor, and the solarium.

Messrs. Ludlow & Peabody were appointed as the architects and the Hegeman-Harris Company as the general contractors. The ability of the architects is best exemplified by the beautiful building which they have designed. The highest commendation is due our contractors who, in spite of the fact that the institution was erected during the most trying period of the war, were able, by careful and conscientious effort and skill,

to complete the building without unreasonable delay and with a substantial saving on the estimated cost. The cordial cooperation of architects and builders, with the building committee, made a difficult and complicated task a pleasant one.

While the plans and specifications were being prepared, architects, builders and engineers met



Basement Plan.

in weekly conference with the building committee and by a process of elimination, arrived at the best of the various methods and materials, discarding everything that would require early replacement.



A Solarium.

The building which resulted from all this preliminary labor has been visited and commended by many eminent physicians, surgeons and hospital administrators.

Impression of Cheerfulness Created

The entrance rotunda creates an impression of cheerfulness and welcome. The ornamental pillars and the soft warm colorings are of Pompeian design. It is lighted from the rear by great windows looking toward the south. Opening from this lobby are the staff and executive offices and a waiting room for patients' friends. The westerly corridor leads to the children's ward with its quiet and observation rooms, diet kitchen, examination room and large bright solarium. The easterly corridor leads to administration offices and the house staff's quarters.

The second floor is devoted to semi-private wards, the left wing for female patients and the right for male patients. There are for each group, eight bed semi-private wards, three bed semi-private rooms, quiet rooms, medical laboratory, examination room and the various utility rooms.

The third floor is for private patients. There are four suites of two rooms and bath, making possible the residence of a relative with the patient.

The fourth floor is for maternity cases, with private rooms, semi-private two and three bed rooms, and an eight bed ward, two delivery rooms and nursery.

On the fifth floor are the two operating rooms,

with their necessary adjuncts.

The basement, which in the rear is above the ground level, is flooded with sunlight. The kitchen, dining rooms for staff, nurses, clerks, and the cafeteria for the help are in the center of the building. At the west end are the receiving rooms, linen room, kitchen stores and the employees' locker rooms. At the east end are the x-ray and electro therapeutic departments and drug room.

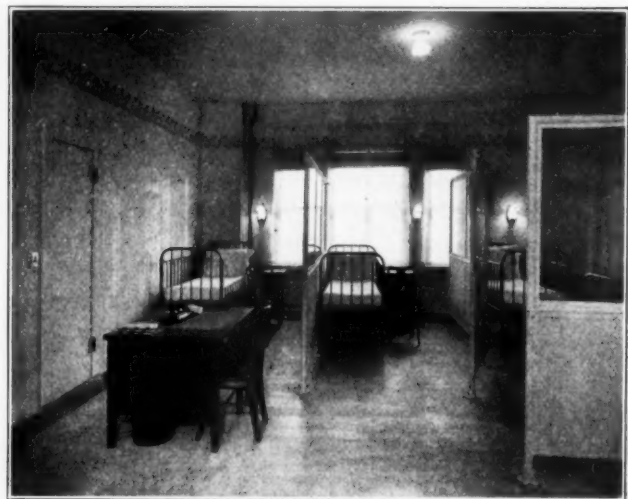
In the sub-basement is the mechanical plant, with water filters, refrigerating equipment and a large general store room from which all supplies are issued on requisition, thus giving a centralized control.

Special Features of Hospital

The special features of the hospital may be considered under several headings:

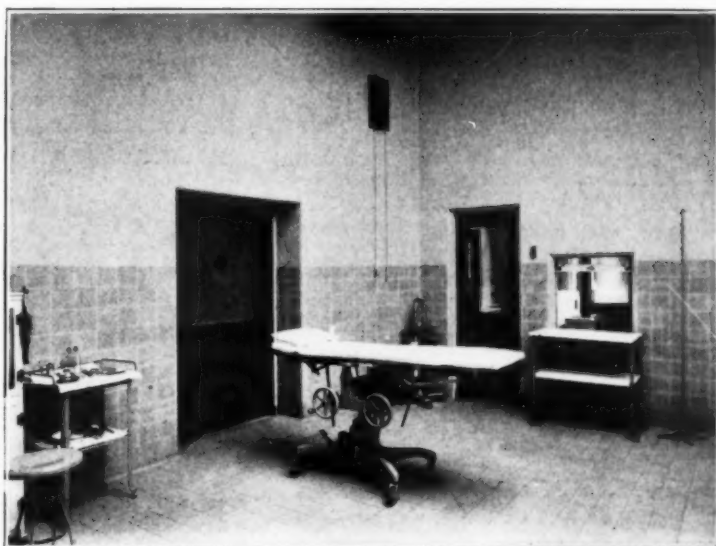
Arrangement—All rooms are so arranged as to accommodate themselves to the proper and rapid work of the physicians and nurses and the convenience of patients. The rooms are just large enough for comfort. In every patient's room is a lavatory with hot and cold water—a high goose neck faucet makes easy the filling of basins, pitchers or hot water bottles.

All patients' rooms, whether private suites, semi-private rooms, or private wards, are outside rooms, receiving the full benefit of the southern sun, ample light and ventilation. They are adjacent to porches, upon which convalescents



Children's Ward. The cubicles are a distinctive feature.

may be rolled through specially designed triple hung windows which open from the floor, when required. An important feature of the plan is the provision for all patients enjoying sunlight in the out of doors. Ninety per cent of the patients can be moved directly from their rooms or wards to a porch or solarium without having to



Operating room. The doctor's wash-up sink, the window to the sterilizing room, and the foot controlled special instrument sterilizer are shown.

go through the corridors. Solariums are at each end of every floor. Privacy in the wards and semi-private rooms has been accomplished by the use of cubical partitions located between the beds. These are made of pipe frame with wood panels below and glass above, which isolate the patients without giving them a feeling of being shut in.

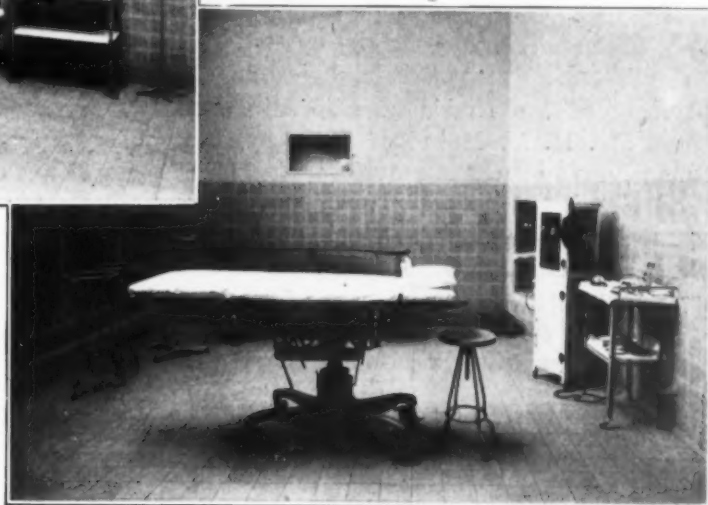
The partitions are seven feet high, are raised six inches above the floor, and are out six inches from the walls. In addition to the partitions, curtains, strung on wires, provide complete privacy during examinations and dressings. The elimination of the old-fashioned clumsy ward screen is a distinct forward step.

The corridors of the hospital, running east and west, are spacious enough for their use, but not excessively large. They are all slightly arched, and the joints are curved, to facilitate cleanliness. All patients' rooms are on the south side of the building—the operating, ex-

aming, and utility rooms on the north.

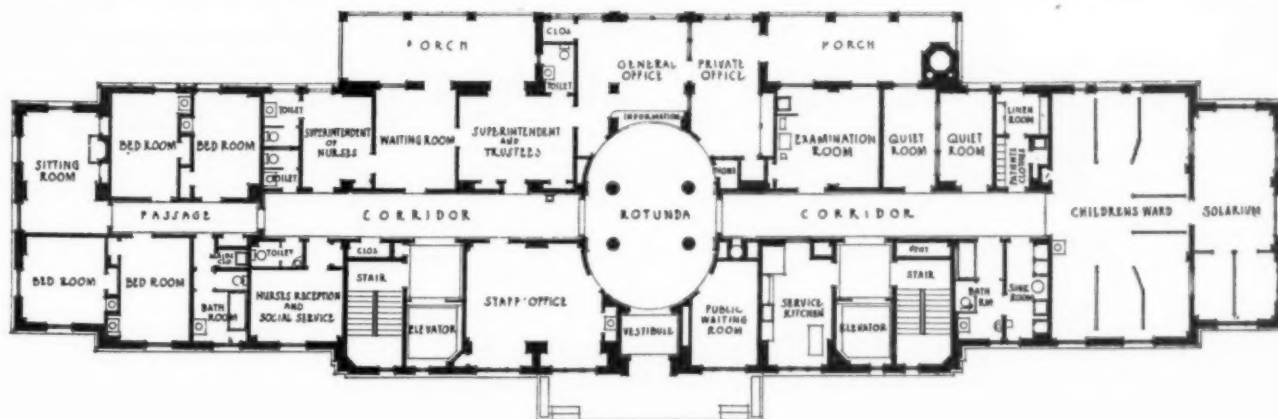
Hospital Homelike

Furniture—The furnishing of the rooms has been carried out with the idea of giving convenience and comfort to the patient, physician, and nurse. The conventional hospital furnishings have been avoided. The rooms are varied

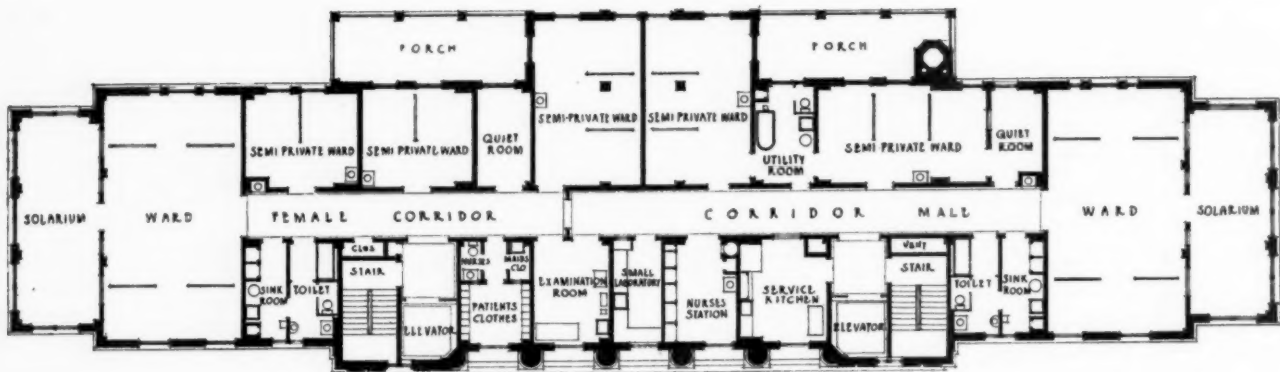


Operating room. The glass screen concealing radiators and horizontal lights, the emergency gas light, and the recessed cabinet for supplies are special features.

in their equipment and colorings and have a most homelike appearance. The usual hospital monotone of glaring white or apple green is missing. The same chintz used for curtains is under glass on bureau and bedside table. Rugs and furniture coverings harmonize with the general color scheme. The selection of draperies and color schemes, the homelike touch of soft toned stencils on the walls was directed by Mrs. Gerrit Smith, the decorator, whose good taste and appreciation of the problem of making a hospital seem like home were responsible for the successful results. Messrs. Frederick Loeser & Company, who sup-



First floor plan.



Plan of the second floor, devoted to wards.

plied most of the furnishings for the building through Mr. H. N. Mahrt of their contract department, gave excellent service.

Food Service—The most modern dietary arrangements are employed. Ice boxes are in the kitchen, all chilled with brine refrigeration. Glass panels are set in the doors to permit inspection of the contents without loss of refrigeration. All food service is from the main kitchen. The food is sent direct to the patients' rooms and wards from the kitchen in specially heated food trucks, each truck carrying sixteen trays. The trays are set up and the food served in the main kitchen under the eye of the dietitian—there is no rehandling or reheating of food. The service is so planned and systematized that no time is lost and the food is served hot. All dishes are returned to a central dishwashing room after the meal has been served.

The dining rooms for the staff and nurses are attractive and comfortable and adjoin the main kitchen. The meals are served on glass covered tables, a dainty patterned chintz beneath the glass. In this way laundry bills are reduced. The help have cafeteria service.

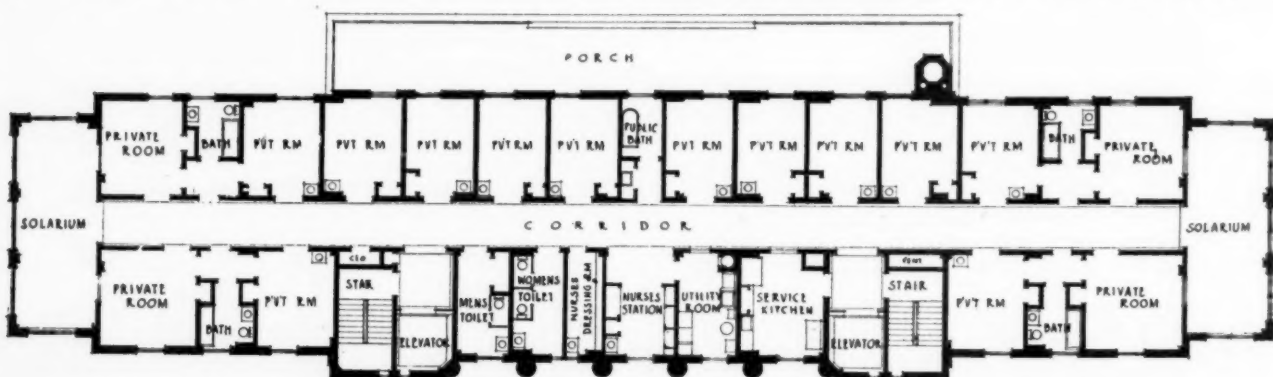
Doors—All doors are noiseless. The old hospital terror of the clicking latch has been done away with. The room doors are provided with an arm hook so that a nurse carrying a tray can open the door without difficulty. Self-closing

floor check hinges prevent slamming of doors. The doors are flush panel oak and wherever necessary for the passage of beds are four feet wide.

Call System—The call system consists of a push button beside the bed of the patient, a signal light above the door of the room or ward, and flash lights at the nurse's desk, in the corridor, in diet kitchen, and utility room. The patient is always able to see that the call has registered.

Technical Equipment—The bed used through the hospital was specially designed for the institution by the Mesereau Bed Company. It has an adjustable double catch mattress frame, positive in action, which allows the patient to rest with back or knees in any desired position. It is easily controlled by one nurse. The bed is carried on 6-inch felt-tired castors, so that it may be easily moved to the porticoes, or to any part of the hospital. This provision largely eliminates the use of stretchers.

Operating Rooms—There are two operating rooms with the sterilization room between. In the connecting corridor are the surgeons' wash-up sinks. The floors and walls of the operating rooms are finished in soft gray tile and are without projecting ledges. The radiation and lighting systems are screened with glass. Fresh air passes through cheesecloth filters. The glass ceiling has been utilized for ventilation purposes



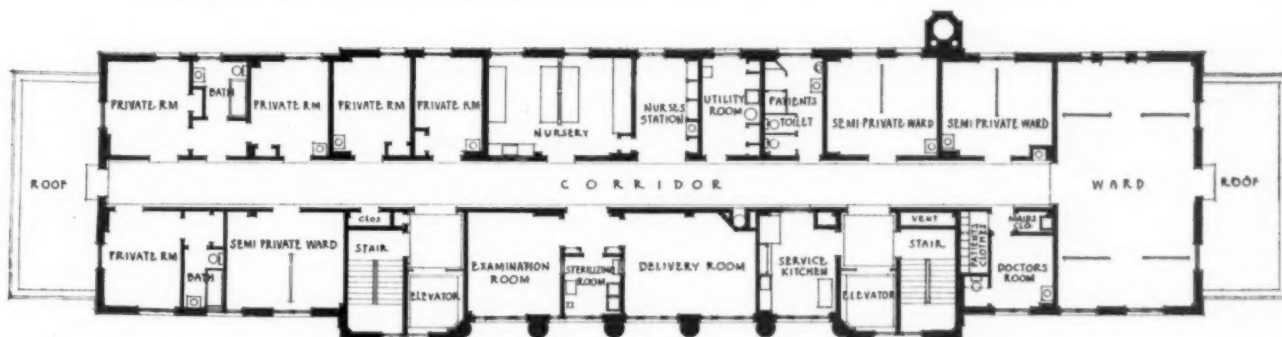
Plan of the third floor, devoted to private suites.

and for light control. The outside skylights above the operating room may be flushed from a perforated water pipe which runs along the top—this simplifies cleaning, and is used to cool the rooms in hot weather. No controlling valves or switches are in the operating rooms, but are in the corridor adjoining. Glass shelves are recessed in the wall for surgical supplies. The floor drains are located out of the field of operation instead of immediately under the operating table; thus an unsanitary condition found in so many operating rooms is avoided. There are no projecting ledges—no lighting fixtures or steam coils above the operating table to collect and diffuse dust.

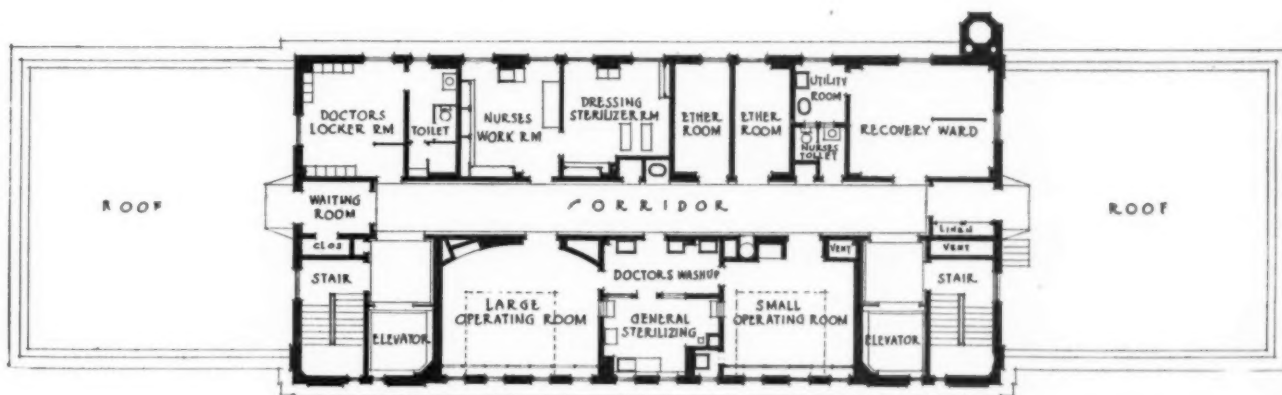
The sterilization room has a window opening into each operating room, operated by arm hooks. These windows give access to the instrument sterilizers, which are opened by foot pedals in both operating and sterilizing rooms, and are thus brought within the field of the sterile nurse.

Rooms for anesthetizing patients, a recovery ward and other necessary accommodations are located within a short distance of the operating rooms.

In the mezzanine floor above the operating suite is a fully equipped pathological laboratory. All of the most approved appliances for general laboratory work are provided.



Fourth floor plan, maternity department.



Fifth floor plan, showing operating suite.

It has been the aim of the designers to provide as nearly perfect operating conditions as possible.

The heating system is under thermostatic control and is of the direct indirect type.

Illumination, both natural and artificial, enters the rooms through a gray glass ceiling that prevents glare and gives the operating surgeon a shadowless light. Above the ceiling a circle of lamps is focused by powerful reflectors on the table, and the light may be graduated in intensity through a series of circuits. This system of lighting has been pronounced by many surgeons as the best yet devised. A telescopic gas fixture for use in emergency is encased in a wall cabinet.

The sterile water supply is distributed to the operating, delivery and examination rooms from a Barnstead Still located on the top floor. In each room to which this water is led through retinned brass pipes is a steam coil reheater, so that either cold or hot water may be drawn from the same sterile tap.

Infinite study has been given to the little details. The patients' lights are so placed as to keep glare from the eyes. They are of opalescent glass and each has an extra connection which can be used for a bed light or for electro therapeutic treatment.

The floors are of terrazzo except for the oak floors in private rooms. The floor base serves as a protection to the walls as well as a sanitary

finish. It projects at an angle of 45 degrees from the wall and keeps trucks and beds from damaging the plaster.

The flush door cupboards in the Nurses' Stations serve to store the many supplies needed for the care and comfort of patients.

Every effort has been made to do away with unnecessary noise and unpleasant hospital odors. The elevators are separated from the main corridor by vestibule doors. Self-closing check hinges on all doors prevent slamming, and in addition to these, rubber gaskets are placed around the doors of all patients' rooms as an additional precaution. The quiet rooms, nurseries and delivery rooms are enclosed by triple partitions and double doors. Ventilation has been carefully studied. By the use of transoms and carefully designed windows, natural venti-

lation is used for all patients' rooms and wards. Artificial ventilation is only used to carry off kitchen odors and to ventilate sink rooms and operating suite.

There are many little details which have been incorporated in the building, making for comfort of patients, or ease of administration, which cannot be touched upon in an article of this sort. The hospital was designed primarily to operate efficiently. The purpose in erecting it was to provide beds for the class of people in Brooklyn for whom there was the greatest need of hospital accommodations.

It has been the aim of the trustees to have the institution mark a distinct step in advance in hospital design and construction, and to this end they have given earnest thought and careful study.

THE PURPOSE AND METHODS OF AIR CONTROL IN HOSPITALS*

BY ELLSWORTH HUNTINGTON, PH.D., RESEARCH ASSOCIATE IN GEOGRAPHY, YALE UNIVERSITY, NEW HAVEN, CONN.

PART II. METHODS OF AIR CONTROL AND THEIR RESULTS

In the light of the preceding discussion, let us review various methods of air control and see how far they fulfill the requirements. Such a review suggests that on the whole we have been going away from the ideal rather than toward it. The old fashioned method of heating a room by means of a stove with a teakettle on top of it had many advantages. It gave a much better degree of humidity than do modern methods, for a boiling teakettle is an efficient agent in keeping the air fairly moist. Again, since a stove grows warm quickly and cools off with equal rapidity, it produces a favorable degree of variability. Moreover, the fact that different parts of a house heated by stoves are at different temperatures is probably beneficial. Two great disadvantages of the old method are that it often makes the

That proper conditions of temperature, humidity, movement, and variability of air are vitally necessary to human life has only recently been realized. Every year thousands of hospital patients die on account of lack of proper air control. In the home, in industry, people suffer from bad atmospheric conditions.

Air control needed for successful manufacture, and for the preservation of works of art has been scientifically obtained. Air control assuring the proper conditions for human life can be as easily secured.

Methods, applicable to all sorts of heating systems, are fully described in this article.

rooms much too hot, and that the effects of the heat are often exaggerated by too much moisture. Equally bad are the chilly drafts at some times, and the lack of movement which also often characterizes the air for hours at a time. The open fireplace avoids this last evil, and is an excellent method, provided some provision is made for humidity, and the air is not kept too hot.

Steam and Hot Water Radiator Systems.—

Turning to modern methods, it is doubtful whether our system of heating by steam and hot water have any advantage over the old-fashioned stove except in convenience. Any one who has watched the thermometer in a steam-heated house knows that much of the time it is too high, especially when the outside air is fairly warm or when the temperature is rising, even if it has not yet reached a high level. Added to the excessive heat there is extreme dryness; not one house in a thousand and scarcely one hospital in a hundred

*Second installment of an article appearing in two parts, by Ellsworth Huntington, Ph.D., Research Associate in Geography, Yale University, New Haven, Conn. The first installment appeared in the April issue, under the title, "The Ideal Conditions of the Air."

is properly humidified. The dryness makes people chilly and thus demands still more heat. It also makes them highly sensitive to the slightest draft or movement of the air and thus leads to the closing of doors and windows and consequently to complete stagnation of the atmosphere, to deadly monotony of temperature, and to atmospheric impurity. Thus, in houses and hospitals heated by direct radiation from steam or hot water pipes, unfavorable conditions are likely to prevail in each of the five main respects, namely: temperature, humidity, purity, movement, and variability. This is a sinister fact, but it should by no means cause discouragement. Such conditions, although people are not conscious of it, are probably an important factor in increasing the modern tendency to go South or to California in winter.

Even where it is necessary to retain the system of heating by means of steam or hot water radiators, the condition of the air can be enormously improved. In such a hospital every ward ought to be fitted with dry and wet bulb thermometers. The nurses should be obliged to keep careful records and should pay special attention to getting the correct wet bulb reading by keeping the cloth jacket fresh and by fanning the bulb two or three minutes before taking the readings. They should also be taught to take immediate measures if the dry bulb registers above 68° or if the relative humidity falls below 50 per cent. They can be taught this just as well as they are now taught to take action if the thermometer falls too low.

In order to secure humidity in rooms heated by radiators, the simplest device is to place dishes of water on the radiators or hang them at the rear, but this is utterly inadequate. In cold, dry weather it will scarcely raise the humidity above 30 per cent, and that is not nearly enough. A more effective method is to place pans of water on the radiators, and increase the evaporating surface by suspending cloths like wicks so that they project horizontally over the edge of the pans and expose their moistened surfaces to the rising current of warm air. A fairly good device of this sort is on the market. It is not easy, however, to get large wicks with sufficient absorbent power. Nor is it easy to keep the wicks from becoming coated with mineral matter and thus losing their absorbent quality. Perhaps the best method is a recently patented device whereby a metal pan covered with a grating is constructed so that it looks like the top of the radiator. In the pan lies a coiled pipe which is connected directly with the source of heat and can be operated independently of the radiator. When

water is let into the pan either by hand or by an automatic valve, it is heated by the coil and can be kept at a much higher temperature than would be possible if it were heated solely by the radiator. I have not seen this device in operation, but among the many that have come to my attention it seems the best for use with steam and hot water. The inventor is a hospital superintendent, Dr. Olson of the Swedish Hospital at Minneapolis, and would probably be willing that hospitals should use his method, provided they do not offer it for sale. Any local metal worker could install it, and if artistic considerations are not given too much weight the cost per radiator ought not to exceed six to ten dollars.

In rooms heated by direct radiation from steam and hot water radiators, it is not easy to get the constant gentle movement which is one of the factors that make outdoor life so beneficial. Nevertheless, if one window is kept open a little at the top, it will create a gentle but steady movement which will do much to create right conditions. If it is also made compulsory for the nurses to open the windows every two or three hours and keep them open till the air has cooled three or four degrees, the net result will be far better than the present conditions. In this connection it is desirable to emphasize the importance of opening windows at the top as well as the bottom, and of having deflectors at the bottom to control the air current. Not only does this prevent drafts, but it takes out the upper strata of air which are the hottest and most vitiated, and it also causes circulation throughout the entire air mass of the room instead of only at the bottom. The one thing needful in order to secure moderately good conditions is constant vigilance in teaching the nurses to watch the temperature and humidity and to open the windows often. At the same time, the patients must be carefully shielded from drafts by using good judgment as to how wide the windows should be open. In the coldest weather a fraction of an inch may be enough.

Hot Air Furnaces.—Turning now to ordinary hot air furnaces, the difficulties are much the same as with radiators, namely, too high temperature, too little moisture, and too little variability. There is an advantage so far as movement of the air is concerned and in purity provided dust from the cellar does not enter the fresh air duct. The remedies for high temperature and lack of variability in this case, as in the other, lie in constant watchfulness and in an intelligent use of the windows, particularly by opening them in part from the top and by installing deflectors at the bottom. In order to get the right degree of

humidity it is possible to use pans and wicks, as with radiators, placing them either outside the registers or within them. A much more effective method, however, can usually be followed without great expense. At the top of every hot-air furnace within the air space there is room for a shallow metal pan of large area, the larger the better. It may have to be ring-shaped or irregular as circumstances may demand. It should touch the walls of the furnace to such a degree that in the coldest weather the water in it will reach a temperature of 140° to 160° , while in warmer weather when the furnace is not so hot, it will still give off moisture. In the absence of exact data as to the mutual relations of the evaporating surface, the temperature of the hot air chamber, and the volume of air passing in from the cold air ducts, the best method is to have the pan made as large as possible and with abundant contact with the wall of the furnace. Then have it divided into a number of compartments, so that part can be cut off if the amount of moisture is too large. The central compartment should be connected with the water system, and the flow of water should be controlled by an automatic valve such as is used in the tank in a bathroom. Such a system, together with proper doors to get at it, could be put into almost any ordinary house furnace at an expense of from forty to sixty dollars. If made sufficiently elastic by having a number of compartments so placed that the water can be heated more or less and the evaporating surface varied as circumstances may demand, there seems to be no reason why houses or hospitals with hot air furnaces should not be made almost ideal in humidity.

With this method, as with every other, much depends on the care with which it is worked. Someone must be responsible to see that there is not too much moisture or too little. Even so small a thing as neglect to renew the cloth casing of the wet bulb or failure to fan the bulb properly may render all the other good work useless. One type of carelessness may cause the air to appear sufficiently moist when it is harmfully dry. Another may allow the rooms to become too moist and lead to precipitation which is of course harmful. So important is this that it may pay to keep in use the smaller electric fans during the winter and employ them to fan the thermometer two or three minutes before readings are taken.

Indirect Heating Systems.—We come now to the most highly developed modern systems of heating, namely: the indirect systems in which air is warmed by passing over pipes or radiators heated by steam or hot water and is then blown into the rooms. With such a system any desired

combination of temperature, humidity, variability, and movement can easily be secured. The Boston Art Museum furnishes a good example. It is one of the very few places in Boston where the humidity as well as temperature approach at all closely to the ideal. Even there, however, no attention is paid to variability, and the object of the humidification is not to benefit the visitors and workers, but to preserve the pictures and their frames, the woodwork, carvings, tapestries, inlaid work, and other precious objects.

The four parts of a system such as is used in the Boston Art Museum are (1) the humidifying chamber, (2) the steam-heated radiators that warm the air both before and after humidification, (3) the fans that drive the air through the building, and (4) the ducts that carry the air to the galleries. Return ducts may bring the air back for purification and recirculation, but these are not essential, although they save expense.

In the humidifying chamber some rapidly revolving "breakers" or paddle wheels a foot or two in diameter are placed beneath open ended pipes from which flow streams of water. The water is automatically pumped from a tank which is kept at any desired temperature by means of steam pipes. As the water falls on the wheels it is showered violently in every direction so that the chamber is filled with fine spray—a regular mist. The surplus water simply falls to the ground where it runs back to the tank to be used once more. To compensate for the water absorbed by the air in passing through the chamber, fresh water is let into the tank by an automatic valve.

Through the misty humidifying chamber, under the impulse of the fans, there passes a steady stream of air which has been partially warmed by a set of steam radiators. As the air passes through the mist it absorbs moisture until it is saturated. It also carries with it a certain amount of condensed water in the form of droplets of spray. These are removed by a series of metal plates called baffles through which the air is forced in a circuitous path. It then passes once more through a second steam radiator, where it is raised to a temperature somewhat above that desired in the rooms, this being necessary in order to provide for the loss of heat while the air is on the way through the ducts.

Controlling Degree of Humidity

The degree of humidity given to the air can be controlled absolutely. It depends entirely on the differences in temperature between the air as it leaves the humidifying chamber and when it reaches the rooms. If the two places have the same temperature the humidity will be 100 per

cent; if they differ by 20° the humidity will be in the neighborhood of 25 per cent. In the galleries of the Art Museum the humidity is ordinarily kept at about 60 per cent to 70 per cent with a temperature which is supposed to be only a little above 60°, but which actually runs a good deal higher. It was 66° on a cold winter day when I visited the place. The engineer in charge of the heating plant makes the interesting comment that when the air is at the same temperature in the humidified and non-humidified parts of the museum, he practically never receives any complaints of low temperature from the humidified part, even on days when he gets a good many from the other part. This is especially true on cold days when the unhumidified air is very dry. On such days there are complaints even when the temperature is the same as on other days when nothing is said. The reason is merely that the dryness causes so much evaporation that the air feels cool. With the proper humidity the ordinary person is comfortable with a temperature 5° or even 7° lower than he wants when the air is extremely dry. The engineer also says that once or twice when by accident he has let the fan run too long, the air has reached a humidity of toward 90 per cent and he has received complaints of chilliness and moisture. This means that there are minute droplets of water in the air. It illustrates the important, but neglected difference between condensed or unassimilated moisture and that which is vaporized and thus assimilated by the air. Condensed moisture, even though the droplets are invisible, makes the air raw and clammy. Genuine vapor, on the other hand, merely makes the air feel soft, warm, and spring-like.

The Proper Use of Indirect Heating System.—There is a common and entirely justifiable feeling that the most highly perfected systems of heating and washing the air have been a failure. Instead of improving health they have injured it as appears for example, in the respiratory diseases in New York schools. The trouble, however, does not lie in the systems themselves, but in the failure to utilize their possibilities. In ordinary practise such a system washes cold air in cold water, and then heats the air and blows it into the rooms. It thereby gives it purity, movement, and the right temperature. The failure lies in the neglect of humidity and variability. In order to improve the humidity all that is needed is to warm the air somewhat before it enters the washing chamber, which then becomes a humidifying chamber; and also to warm the water in the tank. These improvements involve no expense except for (1) a small primary heater to warm the air

before it passes to the heating chamber, and (2) a few pipes in the water tank. The variability can be improved still more easily. All that is needed is a bypass, or additional duct whereby outside air can be conveyed directly to the circulating fans and thence to the main ducts without passing through the radiators. After the temperature has hovered around 68° for an hour or two the bypass should be opened. Fresh air can then be admitted in such quantities that in ten or twenty minutes the temperature will fall to about 64°. Then the warming up process should begin and proceed with about the same speed or perhaps more slowly. This cycle should be repeated once in two hours. Experience will doubtless cause many changes in the figures here given, but the principle seems thoroughly grounded.

The proper use of a heating system such as is here described not only supplies air which is ideal in temperature, humidity, purity, movement, and variability, but also has other advantages. For instance, it can be used to cool and dry the air in summer as well as to warm and moisten it in winter. The one process is no less important than the other. Every summer we kill thousands of patients in the United States because we keep them in air of high humidity and high temperature. If a hospital is equipped with a proper system of air control, all it has to do is use cold water supplied by artesian wells or by a refrigerating plant, and the patients can have the same ideal conditions that they enjoy in the best part of the spring and fall and that they can also enjoy in winter.

Air Control System as Disinfectant

A proper system of air control also has great possibilities as a disinfecting agent. Mr. L. W. Swift of North Hatfield, Mass., has a tobacco factory fitted with such a system. He states that during the influenza epidemic of 1918 he placed sulpho-naphthol in the tank of his machine each morning and thus distributed treated air to every nook and cranny of the factory. Among his one hundred employees there was not a single case of influenza. How far such an application is possible I do not know, but it seems to offer bright prospects for a great reduction of contagious diseases and especially for the stamping out of the incessant epidemics of colds which are one of our greatest scourges. If the air were not only properly controlled, but also disinfected in our schools, churches, theaters, office buildings, factories and other places where people congregate, colds might perhaps become as rare in winter as in summer.

Another possible advantage of the fan system of heating and humidification is that it allows much economy of coal, since the air can be recirculated. The plan here advocated of admitting outside air every two hours or so would insure the freshness of the air. The only doubtful point is the ability of the humidifying chamber to remove all disease germs, but with the aid of disinfectants this is probably practicable, provided the infections are of a mild character. Much study of this point is needed, however, and it would be folly to recirculate the air if there is the slightest danger of spreading dangerous diseases.

The Operating Cost of Proper Air Control.—Proper air like most good things must be paid for. The only question is whether the price is too high. A few actual figures will show that the price is low if it carries with it a tithe of the benefits suggested. To begin with the cost of upkeep at the Boston Art Museum during the five years since the system was installed the repairs have consisted only of the renewal of one bearing. The main expense is for power to the fans that drive the air. There are two of these, and each costs 53 cents per hour. As the second fan is run only in very cold weather the cost per day on a 24 hour basis would be about \$14. This sum sounds large, but it supplies 30 to 60 thousand cubic feet of air per minute, and suffices for a huge wing 77x303 feet in size and 41 feet high. The consumption of coal for this part of the building in the warm winter of 1918-19 amounted to about 325 tons, or approximately two tons per day. Aside from the coal and the fan the cost of operation, upkeep, and incidentals on this part of the heating plant may be roughly estimated at about \$12 a day, making a total daily cost of \$42. On this basis the work of humidifying, purifying, circulating, and varying the air, adds about 50 per cent to the cost of merely heating it. Against this, however, must be placed certain saving. The first is a saving in coal. This is affected chiefly through the recirculation of the air, but also by maintaining a lower temperature than is now usual. Again in rooms with high ceilings the upper air is often 10° warmer than the lower and thus a great amount of heat is wasted. With proper circulation, however, the top of the room and the floor have the same temperature. In fact, if the air were properly circulated at all seasons there would be no reason for making a large room any higher than a small one, and thus there would be a great saving not only in heat, but in building material. Another saving comes in the item of cleaning, dusting, and so forth, for with properly washed air this is reduced to a minimum.

When all allowances are made it appears that the operation of an ideal system of air control such as we are here considering will ordinarily involve a cost of perhaps 40 per cent above the cost of an old-fashioned system of heating by direct radiation. The saving of even a few lives would make such an expense well worth while.

The Cost of Installation.—The first cost of installing a good system of air control is by no means so discouraging as might be feared. The great system at the Boston Art Museum cost about \$5,000, and would now cost perhaps \$6,500. This was 8 per cent of the entire cost of the heating plant, and would probably have risen to between 15 and 20 per cent if the entire museum had been humidified. An equipment sufficient for a ward 25x40 feet could be installed for from \$800 to \$1,000 according to the difficulty of putting in ducts. It would cost 60-75 cents a day to run the fan. Four wards of similar size could be equipped for \$1,300 to \$1,600. In order to make the matter more concrete I have obtained an estimate from a manufacturer of ventilating machinery. For this estimate I am indebted to Mr. D. P. Gosline of Boston who installed the humidifying system in the Boston Art Museum. I am also indebted to him for verification of the other figures in connection with the cost of humidification, except that those for the Boston Art Museum were derived from Mr. Samuel Dick, engineer of that building. The first estimate is for a portion of a Boston hospital where the direct system of heating by radiators is now in operation, but where the walls contain ventilating ducts which could be connected with a fan system in the basement. This part of the hospital has four floors each capable of accommodating thirty patients. The manufacturer's estimate reads as follows: "The cost to supply and install the required apparatus, including the rearrangement of the heating surface and air supply ducts in the basement will not exceed \$4,200. This includes automatic control of heat and humidity as well as the motors necessary, but is based on the supposition that all electric wires or other necessary services will be supplied in the building. The proposed apparatus will have sufficient capacity for 120 patients and arrangements are included for using the same as a disinfecting apparatus if required."

On the basis of the figures here given it appears that for an average hospital of 100 beds the cost of installing a proper system of air control may be estimated at somewhere in the neighborhood of \$4,000, while the cost of operation will average approximately \$5 per day, or 4 cents per patient. Needless to say, these figures will vary greatly

from place to place, but they show that in view of the manifold benefits, the cost is by no means prohibitive. In reckoning the benefits, it must be remembered that there will be not only a saving of lives but a corresponding reduction in the discomfort of all patients and in the duration of their stay in the hospital.

The Present Use of Humidifiers.—Most people have little idea of the extent to which up-to-date systems of humidification and air control are now in operation. They are a matter of course in all sorts of manufacturing industries. No cotton mill would think of operating without a humidifier. Otherwise the dry threads would constantly break and make no end of trouble. In wool and silk mills the humidifier is also one of the most essential kinds of apparatus. Bakeries employ the same method in order to raise their bread in warm moist air where the yeast will thrive. So, too, every little cigar factory as well as every big one, has some sort of humidifier, and in most cases these are of types that could be used in homes and hospitals. The occupations thus far mentioned want air that is warmer and moister than the ideal for man. Certain others want coolness and dryness. For the manufacturer of films such conditions are of the first importance. The same is true in the candy trade where coolness and dryness are desirable in the

so-called starch rooms where the candy is formed in the molds, and also in the dipping rooms where chocolates are coated. The same machines which give the cigar maker his moisture and warmth give the candy dipper coolness and dryness. Half a dozen types of apparatus are on the market, so the hospital superintendent can easily find something well fitted to his needs.

These facts are a terrible reflection on our civilization. We have found out just what sort of air is needed not only for works of art, but for movie films, silk dresses, woolen coats, and cotton sheets. We make humidifying machines that enable our cigars to be rolled without cracking and our candies smoothly coated with chocolate. Our materialistic civilization spends millions of dollars in perfecting things, mere *things*, many of which are sheer luxuries. Yet when it comes to people, we have had no such success as we have had with things. We have tried to produce the right conditions in schools, hospitals, and other buildings, but we have never carried on any such prolonged and patient experiments as have been tried by the makers of cigars and candy. If we should succeed with people as well as we have succeeded with things, the world's health and happiness would be improved incredibly. We can succeed if only we will try. Shall we not, then, enter upon this supremely worth while effort?

THE USE OF BOOKS IN THE HOSPITAL*

BY MARY HAMMOND BARKER, SUPERVISOR OF KINDERGARTENS, WORCESTER, MASS.

THE question in the matter of books for children is not one of how many; it is a question of what to read to children. Now comes perplexity and complexity. A selection of books for children might easily be as varied as the number of children existing in the world today of the "Please read to me" age. Of course there are a few books that are universally loved—books that are safe to add to any collection. These could almost be simmered down to two, and even they have an age limit—"Mother Goose" for the smaller children and "Little Women" for the so-called growing girl. Year after year I ask classes of nurses and teachers to state their favorite book in childhood. These girls are so short a distance from childhood that the answer is always prompt. It is "Little Women" ninety nine times out of a hundred. Sometimes a high-brow with a superior air announces that she never could become interested in Meg, Jo, Beth, and Amy; her

favorite is "John Halifax, Gentleman." A mischievous nurse sometimes confesses to a preference for the "Five Little Peppers." I am wondering where "Pollyanna" will stand ten years from now; she must have proved a glad and glittering investment for her author and certain enterprising moving-picture men. To many, "Pollyanna" is as simpering as the "Elsie Books" of our grandmother's days. Elsie's life vocation was weeping. It was considered delicate in a mid-Victorian heroine to weep in a refined manner. Some one investigated Elsie's tear capacity and found that on an average she wept on every other page. That is a large amount of dampness, for the Elsie books run up into ten or twelve volumes, dating from Elsie's babyhood to Elsie's grandmotherhood.

What insipid trash so-called children's literature was in the last century! The bad effect of it, however, was offset by the good stiff work in Latin and Greek in the schools. Translating the "Iliad" and "Odyssey," tramping the historical

*This is the fourth of a series of articles on the recreation and entertainment of children in the hospital and home. The first, second and third articles appeared in the January, February and April issues.

lanes with Alexander and his army, or crossing the Alps with Hannibal, were powerful antidotes. The school readers of the country boy fifty or seventy-five years ago are worth looking into. There were some fine old swinging poems, like the "Burial of Moses" and "Marco Bazaris," and parts of addresses by Burke, the younger Fox, Benjamin Franklin, Madison, and Henry Ward Beecher. These were big, stirring documents, containing ideas and sentiments that aroused the boyish fancy and established the ideals of our fathers and grandfathers. Can't you imagine those country boys in their copper-toed

patient will permit, read aloud "The Newcomes." Dear old Colonel Newcomes' sweetness of character, friendliness, and financial innocence are good for the modern hustler, male or female. Yes, and read Sidney Lanier's poetry. But a word to the wise—it is sometimes difficult to read poetry to a well and strong American. If he is sick and at your mercy, be most discreet. A whole poem given in one dose might—kill him.

Too much cannot be said about the tendency to say or read funny things to sick people. When you are sick, nothing is funny, and moreover, you never again expect things to be funny. Mark



Fig. 1. Nurse reading Mother Goose rhymes to little patient in the sun porch of the Memorial Hospital, Worcester, Mass.

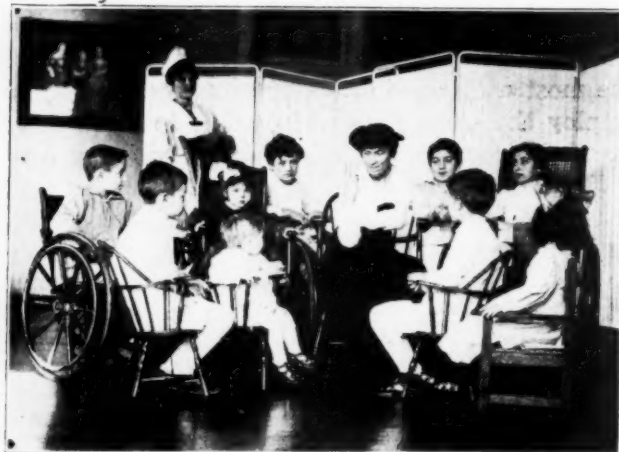


Fig. 2. Story time for the Orthopedic Cases, Memorial Hospital, Worcester, Mass.

boots on their way home from the one-roomed school house, shouting along the country road, "The Turk lay sleeping in his tent"? And when they made a short cut across pastures, standing on a stone wall or pine stump they would recite, to an audience of rocks, sweet fern and huckleberry bushes, Washington's Farewell Address to the Senate. Every one of those pasture orators expected (in time) to achieve the presidential chair. After all, a high ideal carries a mortal through life as a favorable wind a bonny sailing vessel. What if we never do reach our Port o' Desire, we have at least made a brave passage.

Stimulating Reading Matter Avoided

In this matter of reading aloud to sick children and adults we should always keep in mind the fact that the patient, old or young, is below par mentally as well as physically. It is many times well to avoid the mentally stimulating in reading matter. Religion and politics seem to play the mischief with sick people, either leading them to introspection and depression, or excitement and sleeplessness. If you are caring for a man or woman who is usually keen on national or international affairs, it is well to avoid magazines devoted to discussion of these issues. If the

Twain, Oliver Hereford, O. Henry, Carolyn Well and all that tribe are pests to the really sick people. Limericks on the purple cow are a nightmare. When you are very sick, everything tastes purple, and your depression is of a purple to black hue.

Never depend upon your own likes and dislikes in making your selection of books for a patient. Find out his preference. If possible, consult librarians and lists of reading for the sick. As a rule, give to your patient that which makes the least demands upon his weakened power of mental concentration; give reading that diverts but does not excite. As a rule, if a sick patient wants to argue and discuss the subject matter of your reading, it will mean it is a bit too stimulating. When he is well on the road to recovery, and he demands reading along the business or professional line in which he is interested, then this type of reading may be given.

There does come a time, in some cases, for stimulating reading; there are people who, after an acute illness, seem so surprised to find themselves alive, they promptly arrange to become chronic invalids. If this type of patient happens to be a broker, read the daily Wall Street quotations to him. I once knew some one who thought



Fig. 4. An amusement for children who are up and dressed is making picture books for the very sick children. There should be only one or two leaves, and large pictures that tell a story, such as children at play, and animals, in the book for the very sick child.

he was a very sick man. His wife knew better, and she devised a unique tonic. She read from the local paper (previously withheld from friend husband) a report of propaganda set afloat by his political opponent. A few minutes after he asked to have his gray suit sent to the tailor's to be pressed, and stubbornly refused to eat another meal from a tray.

A friend of mine who has a strong humanitarian streak in her make-up, cuts out interesting stories from magazines. These she puts into attractive covers. There are from two to eight or ten short stories in each of the home-bound volumes. When she hears of a shut-in friend she sends a few copies for convalescent reading. These attractive little booklets are so light in weight and convenient to hold that even a very sick person can enjoy them.

With the Children

Sit near the patient when reading or telling a story. (Fig. 1.) Keep the voice low but clear. A sick person actually suffers when people read in a too loud or in sharp tones. They also become fatigued when they cannot hear distinctly. Another thing to keep in mind is not to lay books on the patient's bed or strike the bed with your foot or chair. Be sure your patient is in a comfortable position, well covered, if on a porch, and eyes shielded from the light. If you are reading to a patient in a hospital ward, draw a screen part way about the bed. The life of the ward cannot be interrupted, the screen excludes the necessary activities from your listener and simplifies his environment. Under these conditions the period of reading refreshes him. With children (Fig. 2) get all the walking or chair patients off by themselves for story telling or reading aloud. They enjoy the coziness of the seclusion, and it is always easier to hold their attention.

With the bed cases in the ward I am convinced that it is better to tell the story than to read it aloud. Find a spot where you can see each face and where the voice carries well. The best time is usually midway between dinner and supper time. Doctors and nurses make rounds in impressive formation in the morning; then the children have baths and treatment that take up their time until one o'clock; after this comes rest time. By three o'clock a restlessness comes over the ward. The lady who can tell a story is cordially welcomed. "Gosh! A fellow's gonna miss this when he goes home," said little Dan Scully, who had been in traction for three months in the New York Orthopedic Hospital. He had laid motionless up to the last word of "Jack and the Beanstalk."

An amusement (Fig. 4) for children who are up and dressed is making picture books for the very sick children. This means hunting up pictures in old magazines, classifying as to subject, then mounting them on pages made from newspaper or brown wrapping paper. These may be pinned or tied in the center. There should be only one or two leaves, and large pictures that tell a story, such as children at play, and animals, in the book for the very sick child. Avoid a large, unwieldy background for mounting these pictures. They are troublesome for the very sick child to hold.

The best report on the way to build up a hospital library and the use of books among patients is to be found in *The Nurse*, February, 1916, by Edith Kathleen Jones, librarian of McLean Hospital, Waverly, Mass. The city library of Springfield, Mass., issues two lists under the titles, "Some Books for Boys and Girls" and "Romance and Adventure," the latter a list for young people. The New York Public Library has the following list for young people: "Stories of the Sea,"

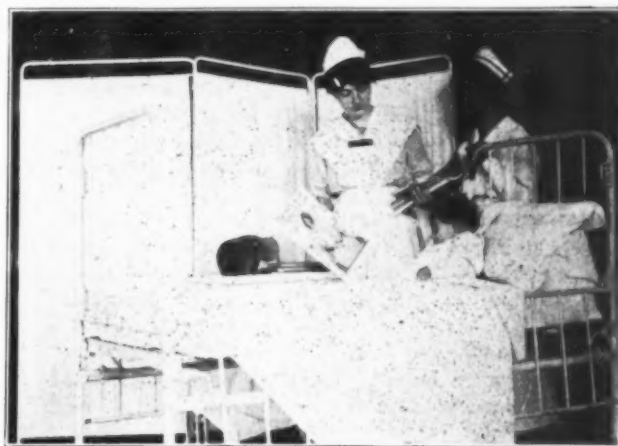


Fig. 3. The little sick child is just able to take an interest in pictures. The screen is drawn part way about the bed in order to exclude the ward activities from the patient, and simplify his environment.

"Heroism," "Patriotism" and "Favorite Stories." The Worcester Public Library, Worcester, Mass., has an excellent list for the use of parents when selecting holiday gifts for children. A revised, very carefully chosen list for children of varied ages has been compiled by the Children's Librarian of Carnegie Library, Pittsburgh, Pa. A list for hospitals is issued

by the St. Louis Public Library. The following brief list is submitted for adults: "The Day's Work," by Kipling; "Cap'n Eri," by Lincoln; "Mary Cary," by Bosher; "Opal," by Hoover; "Mrs. Tree," by Richard; "Casting Away of Mrs. Lecks and Mrs. Aleshine," by Stockton; "The Virginian," by Wister; "Treasure Island," by Stevenson.

Almost anything of Leacock's, that delightful Canadian, is good to read aloud. David Grayson writes charmingly of life on a remote Northern farm.

Works of Trollop, Thackeray, Hawthorne, Dickens and Irving are standard good reading. The sick person of literary vision seems to enjoy spending the length of an afternoon in the lovely,



Fig. 5. A little patient enjoying the picture book made by some of the ward children.

well known stories usually of interest at half that age, as "Mother Goose," "Jack and the Beanstalk," "Cinderella," "Peter Pan," by Barrie, "Little Lord Fauntleroy," "Five Little Peppers," Kingsley's "Water Babies," Selma Lagerlöf's "Adventures of Nils," and, of course, "Little Women" for the girls and "Tom Sawyer" for the boys. Very small children need little beyond the "Peter Rabbit" stories, "Mother Goose," and "Little Black Sambo." The books of the following authors are staple articles for the convalescent child: Kate D. Wiggin, L. M. Olcott, F. H. Burnet. Kipling's "Captains Courageous," Defoe's "Robinson Crusoe," E. M. Tappan's "Heroes of the Middle Ages," any of Andrew Lange's fairy tales, and, of course, "Uncle Remus," by J. C. Harris.

sunny, box-scented English gardens of Jane Austen's books. To tell the honest truth, the only time some of us have to spend in a garden is when we are sick.

With children who have been quite ill, avoid the supernatural, such as wicked fairies, hobgoblins, and giants. At first (after a serious illness) give even the eight to twelve or fourteen year old child the

THE FLORENCE NIGHTINGALE PLEDGE

I solemnly pledge myself before God and in the presence of this assembly, to pass my life in purity and to practice my profession faithfully. I will abstain from whatever is deleterious and mischievous, and will not take or knowingly administer any harmful drug. I will do all in my power to maintain and elevate the standard of my profession, and will hold in confidence all personal matters committed to my keeping and all family affairs coming to my knowledge in the practice of my calling.

With loyalty will I endeavor to aid the physician in his work, and devote myself to the welfare of those committed to my care.

"He who lets the world choose his path of life for him has no need of any other faculty than the ape-like one of imitation. He who chooses his own plan for himself employs all his faculties. He must use observation to see, reasoning and judgment to foresee, discrimination to decide, and when he has decided, firmness and self-control to hold his deliberate decision."—John Stuart Mill.

Degrees infinite of luster there must always be, but the weakest among us has a gift, however seemingly trivial, which is peculiar to him, and which, worthily used, will be a gift also to his race forever.—Ruskin.

HABITS AND HEALTH

Organized society may purchase the extinction of the malarial mosquito. It may buy the eradication of the yellow fever mosquito, the rat of bubonic plague, the tick of spotted fever, the fly of sleeping sickness, or the louse of typhus fever or of trench fever. Organized society may buy clean, pure water, and it may purchase a successful food inspection. But it cannot buy habits of personal hygiene that produce human health; that defend the individual from disease and postpone his death. It cannot purchase health habits that give the individual resistance to disease, making it harder for him to become sick and easier to recover. It cannot purchase the personal consciousness of individual obligation in the health affairs of the community that is essential to an effective defense of the community health.—T. A. Storey, M.D., Ph.D., on Physical Training.

Science . . . necessitates a faith commensurate with the grander orbits and universal laws which it discloses. Yet it does not surprise the moral sentiment. That was older, and waited expectant these larger insights.—Emerson.

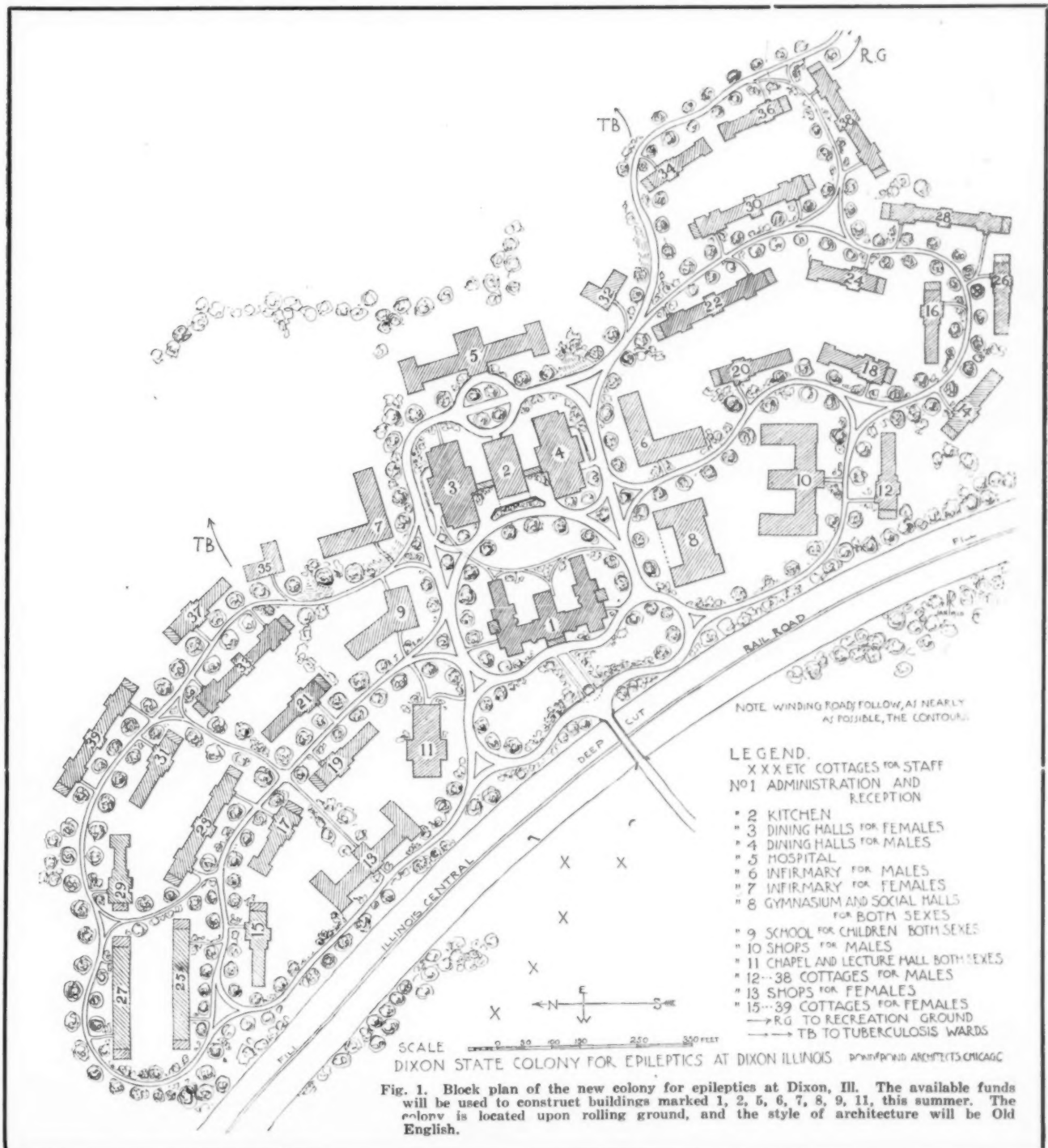
The work of science is to substitute facts for appearances, and demonstrations for impressions.—Ruskin.

ILLINOIS NEW STATE INSTITUTIONS AND HOSPITALS

BY A. L. BOWEN, SUPERINTENDENT OF CHARITIES, DEPARTMENT OF PUBLIC WELFARE

THE last general assembly of Illinois made a number of appropriations to the State Department of Public Welfare for new institutions and new hospitals at existing state charitable institutions. These appropriations were available last July 1, but as the Department and the State Architect, Mr. Edgar H. Martin, were desirous

of producing something which would be an improvement on anything the state has along these lines, plenty of time was allowed for the study and preparations of plans. Developments have reached the stage where blue prints of the block plans of the institutions and the details of the hospitals may be submitted for public inspection.



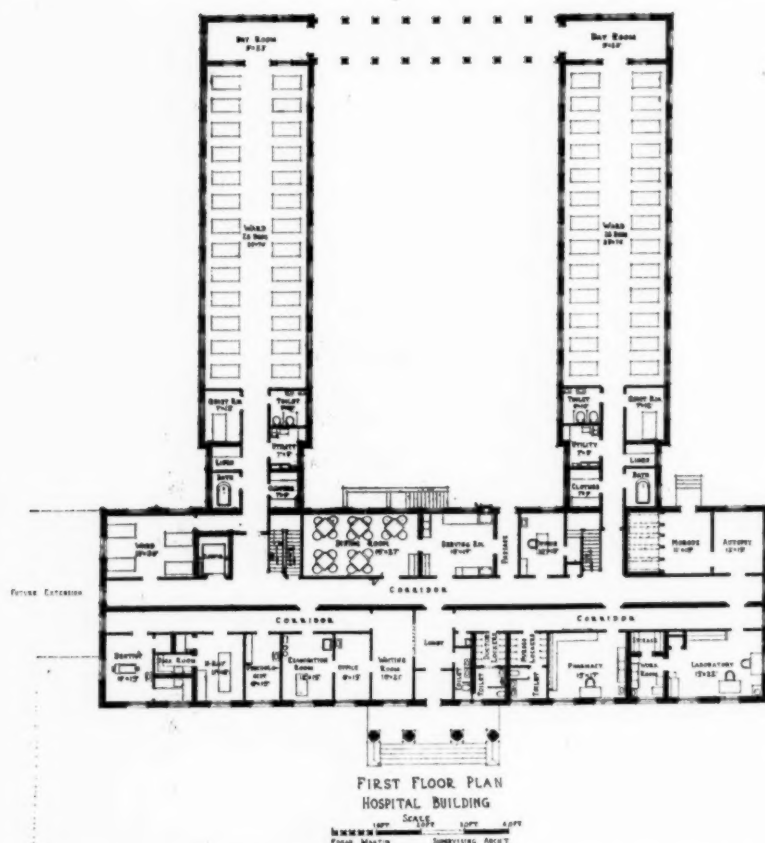


Fig. 2. Plan of the first floor of the model hospital for acute physically sick, to be erected at the Dixon institutions, Alton and Elgin State hospitals. This building is for bed patients, day room and dining room service being provided only for a small number. The sketch indicates the method of enlargement to meet future growth.

Before elaborating on the plans, a brief history of the Dixon State colony and the Dixon State hospital may be given.

Initial Appropriation Made in 1919

In 1913 the legislature made the initial appropriation for the creation of the state colony for epileptics, and a site of 1,200 acres was selected adjoining the northeastern limits of the city of Dixon. The Illinois Central railroad cuts this tract into halves traversing the site through a deep cut. The half lying nearer to the city of Dixon is comparatively level, while that beyond the railroad and bordering the Rock River, which forms one boundary, is very rough and picturesque—in fact, one of the most beautiful spots in the whole state.

It was decided to build the colony on the half nearer the city. Ground plans for an institution to accommodate four thousand or five thousand patients were drawn. A power plant, a bakery, a laundry, a water system, including underground mains, sewers, and a tunnel system big enough for the completed plant were built. A small administration building, two groups each of three cottages for patients, a dining hall and

a kitchen were erected to accommodate three hundred in all. These were about ready for opening when the Department of Public Welfare assumed charge of the state institutions on July 1, 1917. As the war had then begun and labor and material necessary to make the existing building habitable were not available, great delay ensued. It was not until May, 1918, that applicants for admission were accepted.

Although the opening of the institution was announced in the press throughout the state, and county judges, state's attorneys, and welfare organizations were twice circularized, less than one hundred applicants for admission were received. It was apparent that the accommodations for three hundred patients would not be filled, and it was still more apparent that it would be wasteful to operate a plant built for an ultimate capacity of four thousand to take care of the very small number of patients.

Care of Feeble-Minded

In recent years the subject of the care of the feeble-minded has received increasing consideration in all progressive states. Courts, police schools, and the home, have all been understanding what a burden the care of the feeble-minded imposes on the community, and have been demanding larger relief from the state. As the State School and Colony at Lincoln has been the only institution in the state for feeble-minded, and as a second institution for feeble-minded has been advocated for a number of years, the department saw in the situation at Dixon a solution of the problem. It submitted to the general assembly a proposition that the plant at Dixon be converted and enlarged at once to ac-

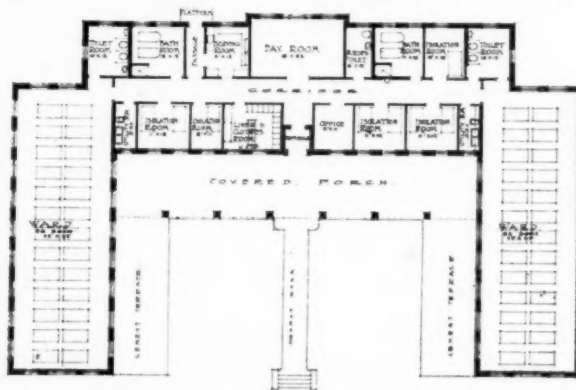


Fig. 3. Floor plan of the model infirmary building to be erected at Alton State Hospital and Dixon institutions. The plan is similar to that of the cottages for tuberculars, except that the walls are of different construction. This single-storied structure will have cross ventilation in both directions.

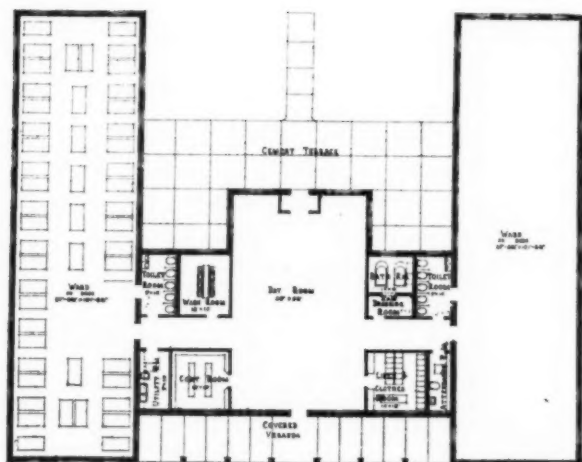


Fig. 4. Floor plan of model cottage for custodial patients to be erected at Dixon State colony and Alton State Hospital. The day room has light and air from two sides, with covered porch on one side and an open cement terrace on the other. Single story.

commodate one thousand feeble-minded, and that on the half of the tract fronting the river a new colony for epileptics to house three hundred patients be constructed. This plan was feasible because the utilities already in operation, such as the power plant, water system, laundry, store house, refrigeration, electric lighting, power, and septic tank were all ample to supply both branches of the proposed project. This plan insured a speedy solution of some of the problems in the care of the feeble-minded. It also would relieve the pressure upon the state for their housing.

It was proposed that the hospital for acute physically sick, and the auditorium for amusement and entertainment, be located on the side where the feeble-minded are housed, but that both sides of the institution should have the use of them. This plan the legislature approved by unanimous vote.

Pond & Pond are drawing the plans for the epileptic colony which will be known officially as the Dixon State Hospital. This new institution will stand on a magnificent site overlooking a wide expanse of rolling lawn and natural forest towards the river, and beyond it the hills and fields. Illinois contains no other institution site to compare with it in scenic beauty.

The architects have laid out an institution scheme which is to furnish a guide for many years to come. An effort has been made to escape stereotyped plans. Until the hospital population reaches one thousand or fifteen hundred the kitchens on the other side of the railroad will be depended upon. A place, however, has been set aside for the installation of all such utilities.

The cut accompanying this article shows how Mr. Martin, the state architect has laid out the colony for feeble-minded and has worked into his scheme the existing building. No radical modifications of the original lay-out of this institution has been made.

All buildings in these two institutions housing patients will be one-story high, except that the main pavilion of the hospital building will be two. These buildings will be without basement. The walls will rest upon concrete foundation, so there will be no crevices or harbors for vermin. The core of the walls will be of concrete blocks. These are made by the patients. The outside will be veneered with brick—the inside faced with glazed brick to a height of eight feet. Dormitory ventilation will be accomplished through the ceiling and roof. The latest ideas in toilet room equipment and floors will be installed.

The plan of the hospital for the acute sick, it will be seen, is capable of enlargement by the addition of units. This basic plan has been adopted for the hospital at the Dixon institutions, the Elgin State Hospital, and the Alton State Hospital. Each one is designed for a small number and will care for only those with acute physical illness. This will prevent the housing of infirm and

crippled in hospital wards. Special wards for these cases are being devised under the name infirmary. Among plans for other projects to be erected at Dixon and Alton are those for a model infirmary. We also show plans for the model cottage for tubercular patients to be erected at the Lincoln State School and Colony, Alton State Hospital, and the Dixon institutions. The cottages are grouped, thus bringing the receiving service, the hospital, and the infirmaries into close prox-

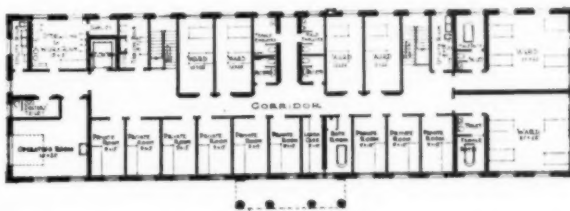


Fig. 5. Plan of the second floor of the model hospital for the acute physically sick. The operating room and necessary accessories are located here.

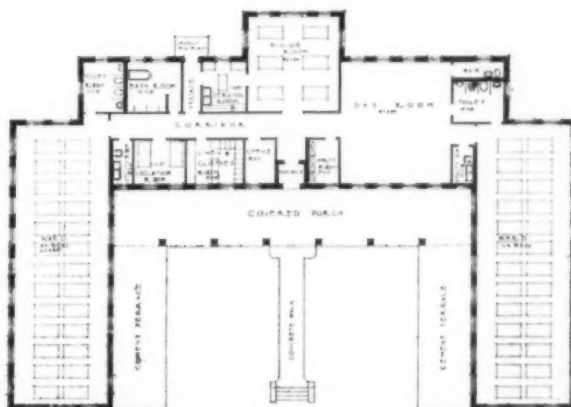


Fig. 6. Floor plan of the cottages for tubercular patients to be erected at Lincoln State School and Colony, Dixon State Colony, and Alton State Hospital. The wards are provided with three sash windows so that all four sides can be thrown open.

imity for the convenience of the medical staff and nursing service.

We have included in the sketches, plans for cottages for custodial mental cases. These are to be erected at Dixon and Alton State hospitals.

From a practical standpoint, let us call attention to the actual contribution to these buildings made by the patients themselves. At Lincoln they have made the excavations, formed the concrete blocks for two large buildings. The contractor begins at the water table and uses the blocks made by the patients. At Alton patients are making the blocks for ten new buildings. At Dixon they are making blocks for nearly a million dollars' worth of buildings. In addition, they are getting out the rock

and crushing it for roads, concrete blocks, and foundations, and are also producing all the gravel and sand needed for the new buildings. At the Elgin State Hospital the patients are to get out the sand and the gravel, wash and deliver it to the site of the new hospital, and manufacture all blocks for the walls. Gravel and rock are found at both Dixon and Elgin. For the Alton work, rock will be shipped from the Chester prison.

Through the working out of this plan and these economies, it will be possible, even under the present high prices of building material and the increased cost of labor to get almost as much housing space as would have been possible with the same amount of money in 1914.

Renewed impetus has been given to the work of hospital standardization by a gift of \$75,000 from the Carnegie Corporation to the American College of Surgeons. This is the second gift made by the corporation to the college for hospital standardization; the amount of the first, made in 1916, was \$30,000.

This, therefore, is a law not found in books, but written on the fleshly tablets of the heart, which we have not learned from man, received or read, but which we have caught up from Nature herself, sucked in and imbibed; the knowledge of which we were not taught, but for which we were made, we received it, not by education, but by intuition.—Cicero.

Ignorance is not so damnable as humbug; but when it prescribes pills it may happen to do more harm.—George Eliot.

Wherever there is failure, there is . . . some step omitted, which Nature never pardons.—Emerson.

The learned in books are ignorant of the world. He who is ignorant of books is often well acquainted with other things; for life is of the same length in the learned and unlearned; the mind cannot be idle; if it is not taken up with one thing, it attends to another through choice or necessity; and the degree of previous capacity in one class or another is a mere lottery.—Hazlitt.

Perfection is immutable. But for things imperfect, change is the way to perfect them. It gets the name of willfulness when it will not admit of a lawful change to the better. Therefore constancy without knowledge cannot be always good. In things ill, it is not a virtue, but an absolute vice.—Feltham.

Scientific, like spiritual truth, has ever from the beginning been descending from heaven to man.—Disraeli.

What art was to the ancient world, science is to the modern.—Disraeli.

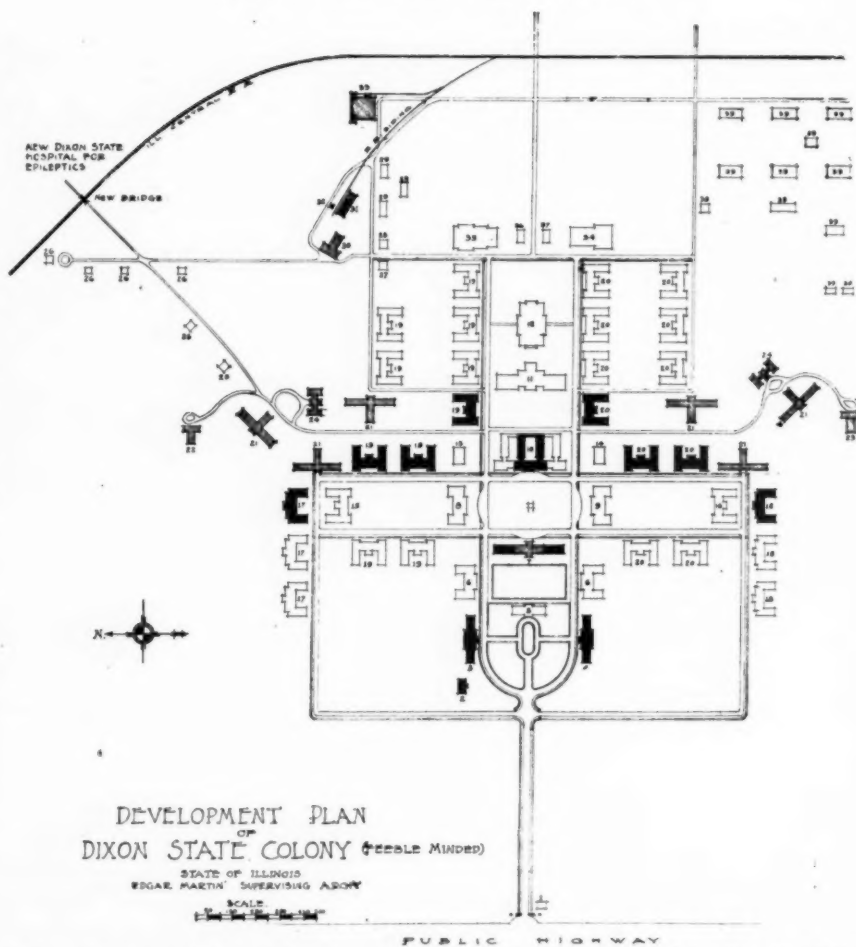


Fig. 7. Development plan of the Dixon State Colony for the Feeble-minded. The site of the new state hospital for epileptics is indicated where the highway crosses the Illinois Central Railroad.

THE PREVENTION OF CROSS-INFECTIONS IN THE CHILDREN'S WARD OF A GENERAL HOSPITAL

BY JOSEPH C. DOANE, M.D., CHIEF RESIDENT PHYSICIAN, PHILADELPHIA GENERAL HOSPITAL*

THE service to the community which a hospital ward renders is in a large measure determined by the competence of the medical attendants and the nursing staff. But no matter how skilled the pediatrician or the attendant nurse, if their services are denied to the public by reason of quarantine, hospital efficiency and equipment is of no practical use to the ailing child.

A quarantined ward is, therefore, a dead loss to those persons who are paying, or are ready to pay, for medical care. Not only from an economic standpoint is such a ward costly to the taxpayer or contributor because the total of hospital days is materially lessened, but in all institutions the *per capita per diem* cost is increased by reason of added nursing requirements, delayed removal of well children, and the cost of disinfection. It is evident, therefore, that when contagion or any other cross-infection which requires quarantine, enters a clean ward, this accident (or mismanagement, as it often is), results in a loss of service and money which is enormous.

From October, 1917, to May, 1918, in four local hospitals admitting children, 10,424 hospital days were lost on account of quarantine which is equivalent to the complete closing for the year of a ward caring for twenty-eight patients, and a loss in money, estimating the *per capita per diem* cost at \$1, of \$10,400.

Loss of Child Life

But the economic and service loss to the community fades into insignificance when the loss of child life is considered. To the hospital child, be its stay short or long, the late fall, winter, and spring months hold no greater perils than those of hospital cross-infection. We refer to the minor contagions (so often misnamed), as well as to primary pneumonia and other infectious respiratory affections—scarlet fever, diphtheria, and

The obligation of the children's hospital which accepts a sick child is a serious one, for every year the morbidity and mortality among children, as a direct or indirect result of cross-infection, is alarming. How the quarantined ward means an economic loss as well as a loss in child life is well understood by those in touch with these problems. The hospital is responsible occasionally for negligence in failing to protect the innocent child from these dangers, though in most instances no direct responsibility can be placed upon it. The mode by which contagion gains entry must be ascertained before the proper precautions may be taken by the hospital.

even that milder yet enigmatic disease—vaginosis.

The obligation of the children's hospital which accepts a sick child is a serious one, for every year the morbidity and mortality among children, as a direct or indirect result of cross-infection, is fearful. While in some cases the hospital is guilty of what almost amounts to criminal negligence in failing to protect the innocent child from these dangers,

yet in many instances no direct responsibility can be placed on the hospital administrator or the medical staff. Clearly, too, the sick child offers an easier entry to infective organisms than the child at play or at school, and thus the measures which are used to control contagion among well children are not applicable in hospital practice.

It is not difficult to appreciate the mother's oft-repeated complaint that she brought her boy to the hospital to have his tonsils removed, and the hospital not only removed his tonsils but also his presence in school or in the home for a longer or shorter time.

It seems timely, therefore, to discuss briefly some of the methods by which contagion gains entry, as well as to mention some precautions and provisions against such entry.

How Contagion Enters

Let us place infected children who are carriers or who are passing through the period of incubation, first. It is obviously impossible for the admitting physician to detect evidence of contagion in many children who are early in the incubation period. The child cannot give its own history, and even if the parents are present they know little about with whom Johnny has rubbed elbows at school, or whose stick of candy he has shared. The physician can sometimes learn, however, of a direct contact with contagion, and these cases are diverted before harm can be done.

In a general municipal hospital the problem of

*Read before the West Philadelphia Medical Association, Dec., 1919.

securing histories develops almost insurmountable difficulties. The children come from such varied sources that often the mere placement of a child is accomplishment enough, without the placing agent worrying about such things as what else besides his clothes the child brings to the hospital.

It has long appeared to the writer that social agencies, particularly those organizations doing juvenile charity and court work, are woefully ignorant of and indifferent to the danger of contagion to the hospital child. Many apparently consider it entirely out of their scope of activity to ascertain common sense facts concerning childhood diseases or recent exposure to contagion, rather than the important, but entirely irrelevant facts, as to whether the father makes \$20.00 a week, or whether he is faithful to his wife, or whether he is suspected of having venereal disease.

Visitors a Difficult Problem

The next important part of entry seems to be through visitors—a most difficult problem to the administrator. The visits of parents to their children are often one-sided in their benefits. The child soon forgets the familiar features of his mother and the rough caress of his father, and his new love is the interesting cap and gown of the nurse. The visiting day is reassuring to the parents as an oft-repeated proof that the hospital has not exchanged Johnny Jones for Danny Smith, and that the telephone told the truth as to the health of the family idol. The visiting day is something more—a day of danger to every child in the ward, for the hand which brings the new rattle may also innocently hold a contagion, which not one, but every mother's child must share.

Some hospitals have discontinued all visiting to ill children; others have closed their doors to all but fathers and mothers. Many have forbidden the visits of children. The type of hospital and its clientele will determine which of these measures should be adopted.

Contagion may be derived from sources more directly under the supervision of the hospital authorities. I refer to transmission by physicians, nurses, ward maids, laundry, dishes, mattresses, clothing of incoming children, bottles, nipples, thermometers, wash-bowls, and cloths. Here enters the complete responsibility of the administrator for contagious morbidity and mortality. Later mention will be made of these modes of infection.

The Observation Ward

The first and most important barrier against incoming infection is certainly the observation ward or wards. Whenever possible one should

not suffice, for it is often necessary to quarantine an already isolated ward. The observation ward should be as carefully set off from the rest of the hospital as if actual rather than potential contagion existed therein. No detail must be neglected. While the ideal observation suite should consist of separate rooms, or cubicles, for each child admitted, few hospitals are thus equipped. Three weeks, when possible, and two weeks certainly, should be the length of this probationary period. Little can be gained by a shorter stay. Each child on admission should be most carefully inspected for developing or fading exanthematous signs. Careful inspection of napkins, worn by children, for evidence of vaginitis, is necessary. Vaginal smears must be taken on all female children, care being taken to prevent the infection of children not already infected, by careless mixing of application, or cover slides.

Taking Throat Cultures

And now as to throat cultures I realize I am treading on dangerous and disputed ground.

At this hospital we have not routinely taken cultures from the throat, for we have found that needless quarantine often result, and that even in wards where there has been no exposure to diphtheria, and cultures are taken for some other cause, a positive report is frequently returned. We prefer the Shick reaction as a protective measure, all patients showing a positive reaction being immediately immunized.

The clothing of the newly admitted child should never reach the observation ward, nor should the admitting nurse, who is required to list and handle such clothing before fumigation, be expected to prepare the child for his bed. It seems almost presumptuous to insist on separate thermometers, wash cloths, and utensils for the child undergoing observation, nor should these precautions end when the child is moved to the so-called clean ward.

Admission of Visitors

And now as to visitors: It has been our custom to forbid visitors to the observation ward; to permit visitors, properly gowned, to the clean wards. It has already been hinted that, if practicable, the safer measure would be to exclude visitors altogether. If visitors are permitted, the kissing, feeding, or even handling of children by parents, should be forbidden—a measure more easily enacted than enforced. The visits of children should be denied.

A not unimportant source of infection, particularly in pertussis, seems to be the return of children from extra hospital quarantine while

still partially infected and still potentially infectious. We have seen such patients give rise to secondary cases.

The cleansing of hands, the wearing of a suitable gown usually suffices to prevent cross-infection, in so far as the resident physician is concerned. The more frequent changing of the nursing personnel makes a separate nursing assignment necessary, and only thorough and frequent instructions as to methods of transmission of disease will prevent accidental infection by the nurse whose duties require entrance into clean and observation wards as well.

Among the troublesome diseases which visit a children's hospital, vaginitis holds a high place. How shall we prevent infection and cross-infection with this disease? Our answer is, quarantine as you would a contagion—separate wards; separate medical and nursing service; sterilization of laundry, before such soiled garments are brought in contact with soiled linen from the non-infected wards; the use of sanitary napkins, which are burned when soiled, to prevent, in so far as possible, cross-infection with a more virulent Neisserian strain; the requirement that every hospital receiving state aid shall open a suitable ward for the reception and treatment of this disease.

SOME PUBLIC HEALTH ACTIVITIES IN NEW YORK

In the annual report of the Public Health Committee of the New York Academy of Medicine, the aim and work of which is to furnish authoritative and unbiased opinions on Public Health, Hospital Management, and Medical Education, its activities of the past year are described. Among the many important phases of Public Health work investigated was the dispensary situation in New York. The economics of these institutions, methods of administration and medical organization, service, facilities, and practices conducive to efficient functioning were described, and suggestions and recommendations formulated for improving the organization and functioning. A statement was prepared concerning the contagious disease hospital situation in the Bronx, and construction of this type of hospital urged. The committee endorsed the principle of the bill providing for the training of nurse attendants, and advocated the establishment of a Legislative Bureau to study the legislative measures passed pertaining to public health and medical practice. Active steps were taken by the committee to initiate legislation permitting a more extensive use of cadavers for postmortem examinations in the hospitals. Health Centers and convalescent treatment in hospitals were investigated, and a plan was drawn up for a study of the hospital situation in New York City.

Every man who is a first-rate something—as every man can be who is a man at all—has no right to be a fifth-rate something; for a fifth-rate something is no better than a first-rate nothing.—Holland.

When contagion has entered our wards, the immediate removal of the infected patient to a hospital treating such cases is indicated; the immunization of all contacts in Klips-Löffler infection; the removal of any case to secondary quarantine which shows any evidence of prodromal symptoms. Many times a quarantine can be more rapidly broken if patients in the ward or department are divided into groups, some of which will pass through the incubationary period without a secondary case. This method may avoid further, and possibly more virulent, exposure. It appears that an infective strain may gain virulency during a prolonged quarantine in which exposure follows exposure, and that a relatively immune child, due to changing virulence, or resistance, may finally be overwhelmed and contract the disease.

Finally, we must look to the practitioner, whether he is doing dispensary or other charitable work, or whether he is referring patients from his own clientele, to furnish clear histories as to exposure, to explain the necessary transfer of infected patients to contagious hospitals, and, above all, to fully, personally, realize that any failure on his part to notify the hospital of contagious contact may mean preventable deaths, and preventable loss to both hospital and community.

SOUTH AMERICAN HOSPITAL SITUATION

As a result of the visit made by the president and secretary-general of the American College of Surgeons to Peru, Chile, Argentina, and Uruguay, authentic information and data concerning the medical and hospital field in South America have been made available. In the report on the trip by Franklin H. Martin, M.D., a brief description of the hospital situation in these countries is given.

The South Americans were found to be particularly alive to the requirements of the modern hospital, and to have equipped their institutions with the latest scientific apparatus. With but few exceptions, the hospital buildings were up to date, and the grounds surrounding the buildings particularly extensive and attractively planted. All modern conveniences, including working laboratories, x-ray outfits, approved sterilizing apparatus, conveniences for diagnostic purposes, outdoor dispensary departments, approved hydrotherapeutical departments, modern laundries and kitchens, provision for postmortems, up-to-date morgues, and well-equipped operating rooms have been installed in the majority of the hospitals. One of the hospitals referred to as being particularly beautiful and modern in equipment was the Modelo Instituto Clinica in Buenos Aires.

A few of the defects noted in hospitals were: an unorganized system of nursing; lack of screening against flies, mosquitoes, and other insects; and occasional bad plumbing. However, the South Americans are aware of these deficiencies and are taking active steps toward remedying them.

DENTAL CARE FOR WARD HOSPITAL PATIENTS

By L. A. SEXTON, M.D., SUPERINTENDENT, HARTFORD HOSPITAL, HARTFORD, CONN.

ONE of the greatest steps forward in the history of medical education dates from the wholesale investigation and classification of medical schools by Dr. Abraham Flexner of the Council on Medical Education, 1908-12. That was undoubtedly the awakening hour of the profession from a self-satisfied slumber that had cast its spell over it for many years. We now know just the class of work done by every medical school in the country.

With the disappearance of many poorly equipped medical schools and the raising of standards in those that remained, the profession has been benefited from whatever angle it may be viewed.

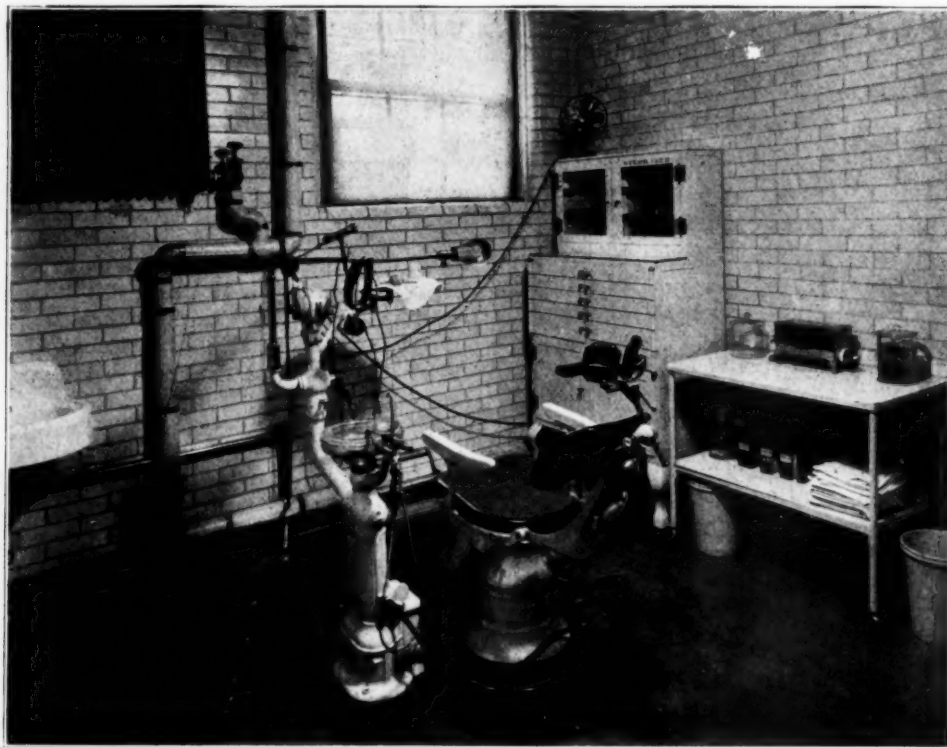
Following close on the heels of the proper classification of medical schools comes the much talked of classification of hospitals, which is already showing results. Now that several schools require medical students to spend a year in a

we have as interns, we all naturally hasten to put our houses in order by meeting the requirements, whatever they may be.

Now, with a precedent like this in the medical schools and hospitals of the country, who will gainsay that the dental schools are not due for a period of similar advancement?

The Dentist in the Hospital

Dentists have not been slow to avail themselves of the opportunities that have come to them. It is our opinion that they will gladly meet the medical profession and the hospitals of the country half way, and that the time will come when dental internships in general hospitals will be as much sought by the men who propose leading the dental profession as they are by the leaders in medicine and surgery. In this, the comparison between the dental surgeon who does not avail himself of these opportunities will be precisely



A well equipped corner in the dental department of Hartford Hospital, Hartford, Conn.

"Class A Hospital" before conferring degrees upon them, the question comes quickly to all of us, "What constitutes a Class A Hospital, and in what class will our respective institution fall?" Realizing that sooner or later the class to which we belong is going to determine the class of men

the same as the medical man who goes into practice without a hospital training.

After long years of study and research for specific remedies for many ailments, the medical profession has turned to preventive medicine. Wisely so, for if we cannot find cures for these

conditions, the next best thing is to prevent the condition. In order to do this, we must have the cooperation of the Public Health physicians and nurses, the social service, the school nurse, the dental hygienist, and the dentists. There is no one in this group whose influence will be more felt in preventive medicine of the future than the dentist.

More and more as times goes on do we realize the wonderful opportunity offered the dental profession to render real service to humanity.

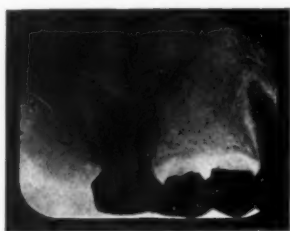
Dental Prophylaxis

The importance of dental prophylaxis has long since passed the experimental stage.

It has been shown that numerous types of sys-

tain their own dental dispensaries. If the heads of the various industries that are taking care of their employees' teeth have found it practicable and profitable, how much more should it benefit the sick man in the hospital who is probably suffering from some obscure condition, the cause of which may be a bad tooth. Like every other movement for the betterment of social conditions, this one is reflected not only by the improved conditions of the operatives themselves, but in their home conditions. There can be no doubt that with this campaign of education and prophylaxis will come better and healthier communities, and better dentistry.

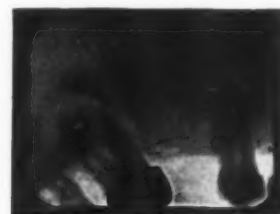
It is very desirable for dental surgeons to have a medical degree in addition, but if this cannot



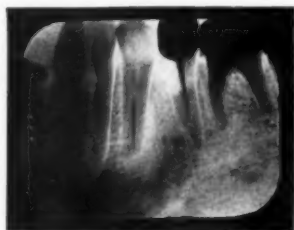
Chronic alveolar abscess at apex of upper second molar.



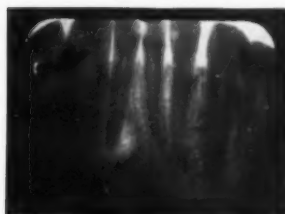
Chronic alveolar abscess at apex of upper bicuspid bridge abutment.



Chronic alveolar abscess at apex of upper lateral incisor with pyorrheal condition.



Chronic alveolar abscess at apices of lower bicuspid and molar.



Chronic abscess at apex of lower central incisor due to pulp in sound tooth.



Chronic abscess apex of lower bicuspid.

temic disease are directly traceable to oral sepsis, and that of all chronic infections, those occurring at the roots of the teeth are the most common.

We know that the constant forcing into the circulation of millions of pathological organisms by pressure on infected teeth is responsible, not directly alone for many types of infection, but indirectly by lowering the resistance of the individual, thereby increasing the susceptibility to other conditions which are in no way related to the primary cause.

Hospitals have been slow to realize these facts and to avail themselves of the services of attending dentists. This has not been true, however, of the far sighted directors of industry, as is attested by the fact that there are now sixty-one industrial plants in the United States who main-

be secured, the next best step is the dental internship in the general hospital. This brings the two professions together and not only gives the dentist the benefit and advantages of an association with a general medical and surgical staff, but also stimulates the physician to look beyond his own profession for a solution for many of his knotty problems.

Opportunity for Training

The introduction of the dental intern into the general hospital brings to us another valuable possibility, and that is the opportunity of additional training for our nurses who expect to go into public health work in any of its branches. Short, comprehensive courses can be easily introduced into the training schools and made a part

anxious to visit this class of patients and render the necessary service without charge, as are the physicians and surgeons.

This may not be true of the busy man who already has more work than he can do, but there are plenty of well trained younger men who would gladly be classed as a member of the attending staff of their local hospitals. If they will connect themselves with their respective hospitals and do the proper class of work among the ward patients, it will only be a short time before they will have the cooperation and influence of the physicians and surgeons with whom they are associated.

Cost of Equipment

The question of equipment is not a difficult or expensive one and the cost of supplies needed to carry on the work should not exceed one hundred dollars a year.

The equipment for such a department, like all other departments in a hospital, can be installed at a very reasonable figure, or it can be made to cost a great deal.

For the care of ward cases alone in a hospital of 500 beds, one chair is all that is needed. This one item is the most expensive of the entire equipment and can be had from \$250 up.

The history card, which we have found most satisfactory, is a 4"x6", with a diagram of the entire upper and lower denture, with right and left sides, numbered and so marked that there can be no mistake when these patients go to the x-ray department as to just what teeth are to be x-rayed. In addition to the diagram, the front of the card shows the patient's name, address, diagnosis, service referred from, and history number in this department corresponding with

all other histories and records of the same patient. These cards are supplied by The Morgan Press, 206 North Calvert Street, Baltimore.

Duties of Intern

At the time this department was organized it was decided to limit the appointment of the intern to one year. At the end of the first year, however, the intern asked for a reappointment, which he is now serving. His duties are much the same as those of the other members of the house staff, except that his patients are dental and his work done under the supervision of the attending dental staff. He makes daily rounds with the attending physician on duty and they together decide what cases are to have dental care, and the nature of the work to be performed. In addition to the medical patients who require his services he has charge of all surgical cases of a dental nature.

In our work at the Hartford Hospital we have tried to impress all patients coming to this department with the importance of continuing their dental care and introducing it into their homes when they are discharged. Every ward patient whose physical condition will permit is given a routine dental examination. There is no charge made to ward patients for this service.

It is too early in the history of this department for us to realize the full importance of this work among ward patients, but we feel that it is a start in the right direction. The need for it is clearly indicated by the fact that during our first year approximately 3,500 patients were examined by this department, histories being kept of only those who accepted treatment. There were 519 operations for various conditions and 1,485 extractions.

FUNCTION OF HOSPITAL SHIPS DURING THE WAR

In a report on the part played by hospital ships during the war, Dr. Chevalier, general medical inspector of the Public Health and Marine Service, stated that these ships functioned exclusively as a means of evacuating the sick and wounded. They aided in transporting the wounded of the Belgian army and brought home 220,000 casualties from the various Mediterranean fronts in the east. While on the ships the men received excellent medical care. They were well fed and well quartered. The rocking of the boat proved only a slight disadvantage. It was even possible to do a great amount of surgical work; statistics show that one surgeon during thirty-nine days of hospitalization performed 155 major operations and treated 1,884 wounded; and another, in fifteen crossings, performed 968 operations, 300 of which were under general anesthesia. The ports of debarkation were advised in advance of the number of wounded aboard, and were prepared to meet the emergency.

PSYCHOLOGICAL ASSOCIATION MEETS

The seventy-sixth annual meeting of the American Psychological Association will be held June 1 to 4 at the Hotel Statler, Cleveland, O. The preliminary announcement of the program shows that the meetings will be devoted to discussion and reports of the recent accomplishment and problems met with in the psychiatric field. Administrative and State Problems, Mental Hygiene, Clinical Psychiatry, and Neuro-Pathology and Applied Topics, will be among subjects discussed, and Round Table Conferences will be a feature of the convention.

The organization announces the change of its name to the American Association of Psychiatrists.

OHIO HOSPITAL ASSOCIATION MEETS

The Fifth Annual Convention of the Ohio Hospital Association will be held on May 25-27 at the Hotel Deshler, Columbus, Ohio. The commercial exhibit of the Convention will be set up in Memorial Hall, Columbus.

DEVELOPMENT OF HOSPITAL PLANNING IN MILITARY HOSPITALS OF CANADA

BY W. L. SYMONS, ARCHITECT FOR MILITARY HOSPITALS, CANADA

THE purpose of this article is to record the development of the erection and equipment of Military Hospitals, under the administration of the Military Hospitals Commission and the Public Works Department of Canada. The work of erecting and equipping the hospitals was, until April 1, 1918, entirely under the control of the former organization, but on that date this work was transferred to the Chief Architect's branch of the Public Works Department.

The Department of Militia and Defense, to which these buildings would be transferred on completion, and which was to assume the control and maintenance of same, appointed a special committee consisting of an expert in each branch of the medical and surgical service.

To this board of consultants were referred the plans for expert advice, and they acted in collaboration with the architects, and to this, no doubt, is due in a large measure the success attained.

Beginning as it did, with the caring for our boys in private houses, many of them generously loaned by the owners, the growth might be recorded as follows:

A—The remodeling of large dwellings, such as Oak Hill Military Hospital, St. Catharines, Ontario, and the Sir Sanford Fleming House, Ottawa, Ont.

B—The remodeling of schools, colleges, and other large public buildings, such as Queen's University, Kingston, Shaughnessey and Fairmount schools, Vancouver.

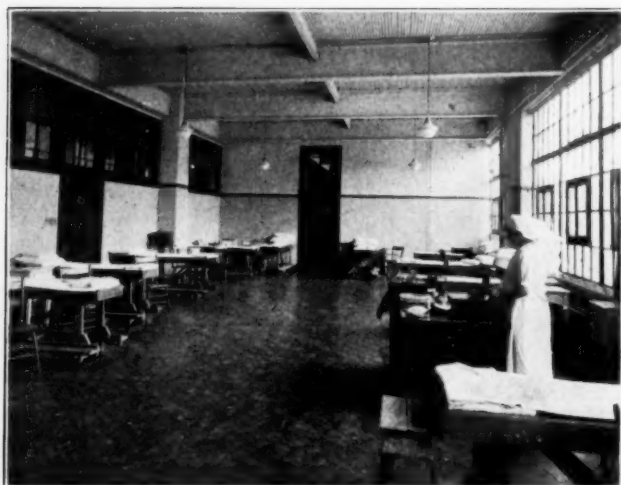
C—By additions to existing institutions, such as the asylum at Whitby, Ontario, and the Reformatory at Guelph, Ontario.

D—By the building of entirely new units capable of expansion, as, for example, at Camphill, Halifax, and Ste. Anne de Bellevue, P. Q.

It soon became evident that the work was fast outgrowing the policy of altering and adding to existing buildings. As the war dragged on into the third year and the devastation and toll in lives became very real, those entrusted with the work began to realize what a tremendous undertaking confronted them. New buildings with increased accommodation must be provided, and on short notice, buildings of permanent construction were out of the question. Then it was that the construction of semi-temporary buildings became the set policy. The type adopted had much to recommend it. It was economical, could be quickly built and easily altered and added to.

The first building of this type, and an entire unit, was built at Camphill, Halifax, N. S. (Fig. 1). It consisted of two ward buildings, each accommodating one hundred and fifty patients, together with a general service building.

The ward buildings were two stories high, providing for one ward of seventy-five beds on each floor. At one end of the ward was a connecting corridor, and adjacent to it were rooms for nurses, orderlies, toilets, and general utilities; at the other was a large solarium with a stairway leading from the first to the second floor. This arrangement of stairs was most workable,



Massage department in the Orthopedic Hospital, Toronto, Canada.



Hydrotherapy department, arm and leg baths, in the Orthopedic Hospital, Toronto, Canada.

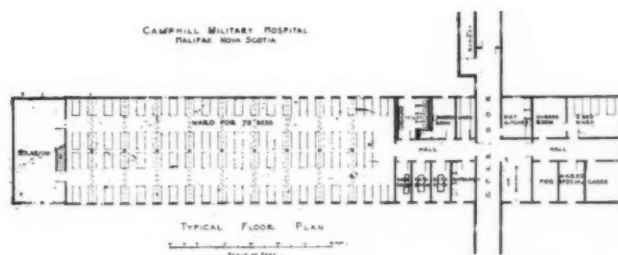


Figure 1. Typical floor plan of the Camphill Military Hospital, Halifax, Nova Scotia.

as it served to reduce the traffic, through the wards, and at the same time afforded quick and easy exit in case of fire. The solarium was invariably made a most attractive lounge room, thanks to the efforts of the ladies of the local societies. Suffice it to say that as a first attempt this type of building proved eminently satisfactory, so much so that duplicates were built at North Toronto and Winnipeg.

No sooner was this success attained, than the architect, always on the alert for improvements, began to plan adaptations of this ward unit. The first development was incorporated in the next group of ward buildings erected at Camphill (Fig. 2). Instead of the long ward, the floor space was divided into two self-contained wards, of thirty-seven beds each, with full complement of nurses' and utility rooms, while the connecting

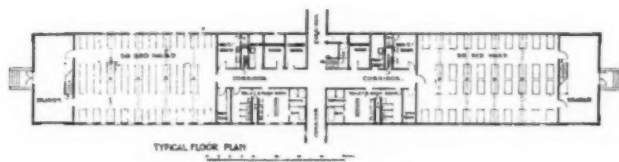


Figure 2. Typical floor plan of the Military Hospital at Ste. Anne de Bellevue, P. Q., Canada.

corridor instead of being at one end, was made to connect the units midway in their length. The advantages were manifest. The smaller number of patients in a ward made for better discipline and efficiency generally. This second plan was followed in some of the new wards at Cobourg, Ont., and Ste. Anne de Bellevue, Que. While very compact and workable, even this plan was found to be capable of improvement, and a third development was adopted. The last change made for economy, but it is still an open question whether it did not possess disadvantages sufficient to outweigh this feature (Fig. 3). In this plan the nurses' and orderlies' room were left adjoining the ward, but all toilet and utility rooms were placed in a small separate building, a sort of enlargement of the through corridor. The chief improvement was in the farther removal from the wards of the odors from diet kitchen and toilets, but to offset this was the disadvantage

of carrying the meals and other bed services. One important feature of all the larger groups was the general service building, containing the kitchens with all accessory rooms, and dining rooms. As these buildings represented much study, and also passed through several stages of development a short description might not be out of place. The first was erected at the Davisville Hospital in North Toronto (Fig. 4), and consisted of a large kitchen containing the necessary equipment for preparing and cooking the food, and washing and sterilizing the dishes. The only



X-ray department in the Orthopedic Hospital, Toronto, Canada.

additional rooms were for cold storage, and garbage disposal. The main dining room had a seating capacity equal to two-thirds of the total number of patients, and adjoining were separate dining rooms for nurses, orderlies, medical officers, and others.

At Fredericton and Ste. Anne de Bellevue this scheme was enlarged (Figs. 5 and 6). The main kitchen contained only the ranges and other cooking equipment, while the food preparation, the bakery, dishwashing, refrigeration, general stores, and garbage disposal had each a separate room, opening off the main kitchen. As may be seen on the detailed plans, the main kitchen is

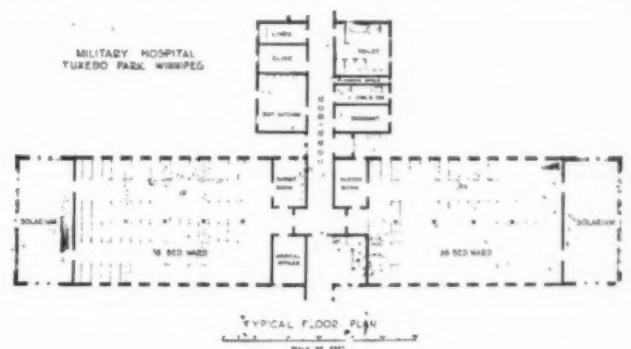


Figure 3. Typical floor plan of the Military Hospital, Tuxedo Park, Winnipeg, Canada.

lighted with clerestory windows which provide excellent light as well as ventilation. The working equipment throughout was of standard hotel heavy usage type, consisting of ranges, steam cookers, steam heated stock pots, steam tables, motor driven vegetable peelers, and food choppers, and in centers where the population exceeded 250 persons motor driven dishwashing machines were installed.

The necessity of feeding a large number of men in a short time gave rise to the introduction of the Cafeteria service. This innovation was first introduced at the discharge depots at Halifax and Quebec where all convalescents were cleared from inbound ships. As many as fifteen hundred patients were served at a single meal. The system worked so successfully here that it was thought wise to install it in some of the larger hospitals, such as Ste. Anne de Bellevue where as many as seven hundred patients were often served.

At the larger centers, refrigerating plants have been installed for cooling purposes and for the production of artificial ice. Also fully equipped steam laundries were provided, including steam sterilizers for bedding and clothing.

The development outlined in the planning of the ward pavilions and service buildings also occurred in regard to the accommodation required for the various branches of medical and surgical

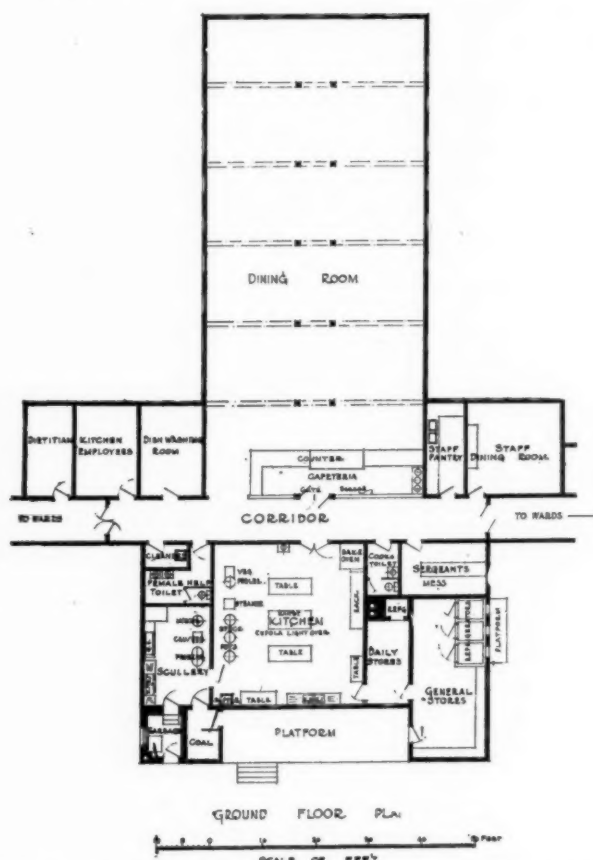


Figure 5. Ground floor plan of the Military Hospital at Fredericton, N. B., Canada.

work. As for instance—the laboratory department was originally housed in one room, but eventually the necessities of this department could only be met by the erection of a separate building. The same may be said of the accommodation for the dental service, x-ray, electrical treatment department, and massage department.

The requirements consequent on research in these departments were developed so rapidly and were of such importance that in each case special rooms and equipment were found necessary. Subsequently it was necessary to devote a building to the exclusive use of these departments.

Nor has the scientific equipment been neglected. On the contrary every department has been planned and outfitted along the most scientific lines known to the medical profession.

The surgical buildings contain, in addition to most up-to-date operating rooms, all the complementary rooms, such as preparation, sterilizing, and x-ray. There are also the necessary provisions for the treatment of nose, ear and throat cases, as well as up-to-date dental suites. One of the most interesting features is the hydrotherapy department with its full complement of electrical, continuous hot and cold water, and arm and leg baths. These rooms are immaculate in white tile, marble, and white enamel paint, and the

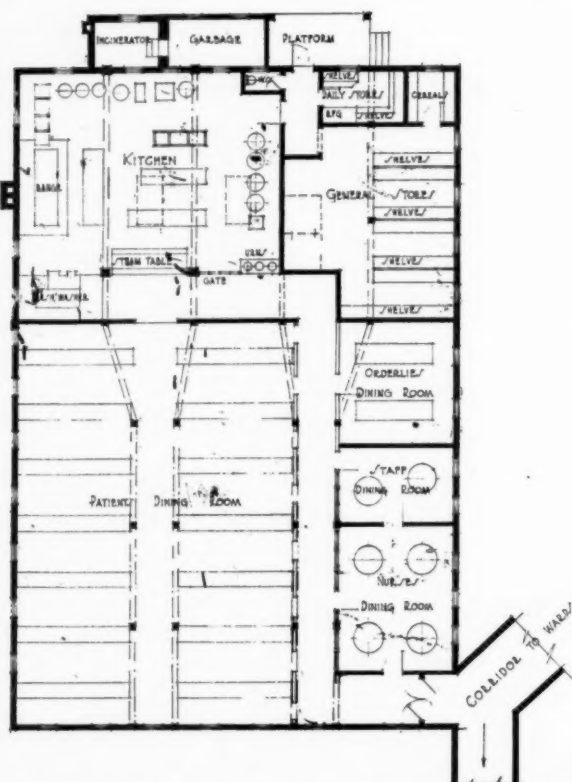


Figure 4. Plan of the Military Hospital at Davisville, North Toronto, Canada, showing the general arrangement of the dining rooms and kitchen.



Figure 6. Ground floor plan of the Military Convalescent Hospital at Ste. Anne de Bellevue, P. Q., Canada.

equipment is the best that science has produced.

Not the least interesting phase of the designing of these hospitals has been the grouping of the buildings. Every site, of course, presented its own problems, and the study given to the block plan has contributed in no small degree to the successful working out of the scheme. From the illustrations (Figs. 7, 8, 9, 10, 11, 12, 13, and 14) it will be noted that no two are alike or even similar, while they all embody the same general requirements.

There is the main approach, which in most cases is the guard house. Then the administration building, around which the others are grouped, and in which accommodations are provided for the officer commanding, and his staff, the matron, burser, and others. The service building contains the kitchen and dining rooms, and the required number of ward buildings. The several units of this main group are all connected by corridors or covered ways. Around this, conveniently placed on the site, are the homes for nurses, orderlies, medical officers, and at the larger centers a recreation building, a vocational training building, and an infectious hospital.

As our readers can readily realize, one big problem in our climate was that of heating, and the manner in which that problem has been overcome is one of the noteworthy features of these

institutions. The buildings are heated by steam, supplied through tunnels from a central heating plant. To solve the fuel supply question an effort was always made to locate on or close to a railway siding. The most unique case is St. Anne de Bellevue where the tracks are laid over the coal bunkers. Then, too, there were other engineering problems. If the hospital was located within or adjacent to a municipality having all the public utilities the question of water, light, sewage disposal, etc., were simple; otherwise, private systems had to be installed in connection with the central heating plant.

The esthetic has not been overlooked in the attempt to secure the best results. The most possible has been made of the simple materials used, and much has been learned in connection with this important subject. The color scheme in general use is as follows: In the wards the main walls are a light buff, with dado a deep buff, and cream ceiling. In the utility rooms the woodwork and walls are finished in dead white enamel, while the nurses' rooms are treated with various shades of sage green, light delf blues and other soft colors. The kitchens and service rooms are finished in flat cream white, and dining rooms, generally in tones of sage green and brown. The various departmental

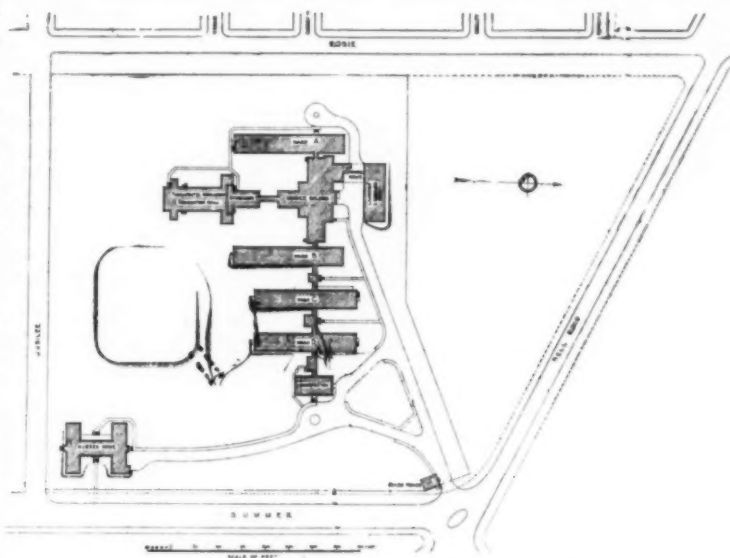


Figure 7. Block plan of the Camphill Military Hospital, Halifax, Nova Scotia.

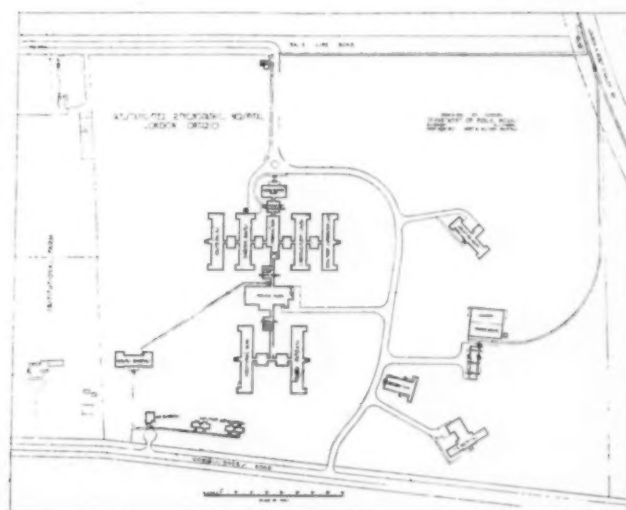


Figure 9. This illustration shows block plan of the Westminster Psychopathic Hospital, London, Ontario, Canada.

rooms—such as operating suites, etc., also received very careful consideration and universal results were obtained in many instances.

The buildings erected at London for psychiatric work deserve a passing note. As this institution was to be permanent a greater efficiency in planning was aimed at, and the plans evolved were

architects were in constant advice with experts in orthopedic work; the plan thus evolved will prove of interest to those specializing in orthopedic work.

Besides the special accommodation for psychiatric work at London and the orthopedic work at the Dominion Orthopedic Hospital in Toronto,

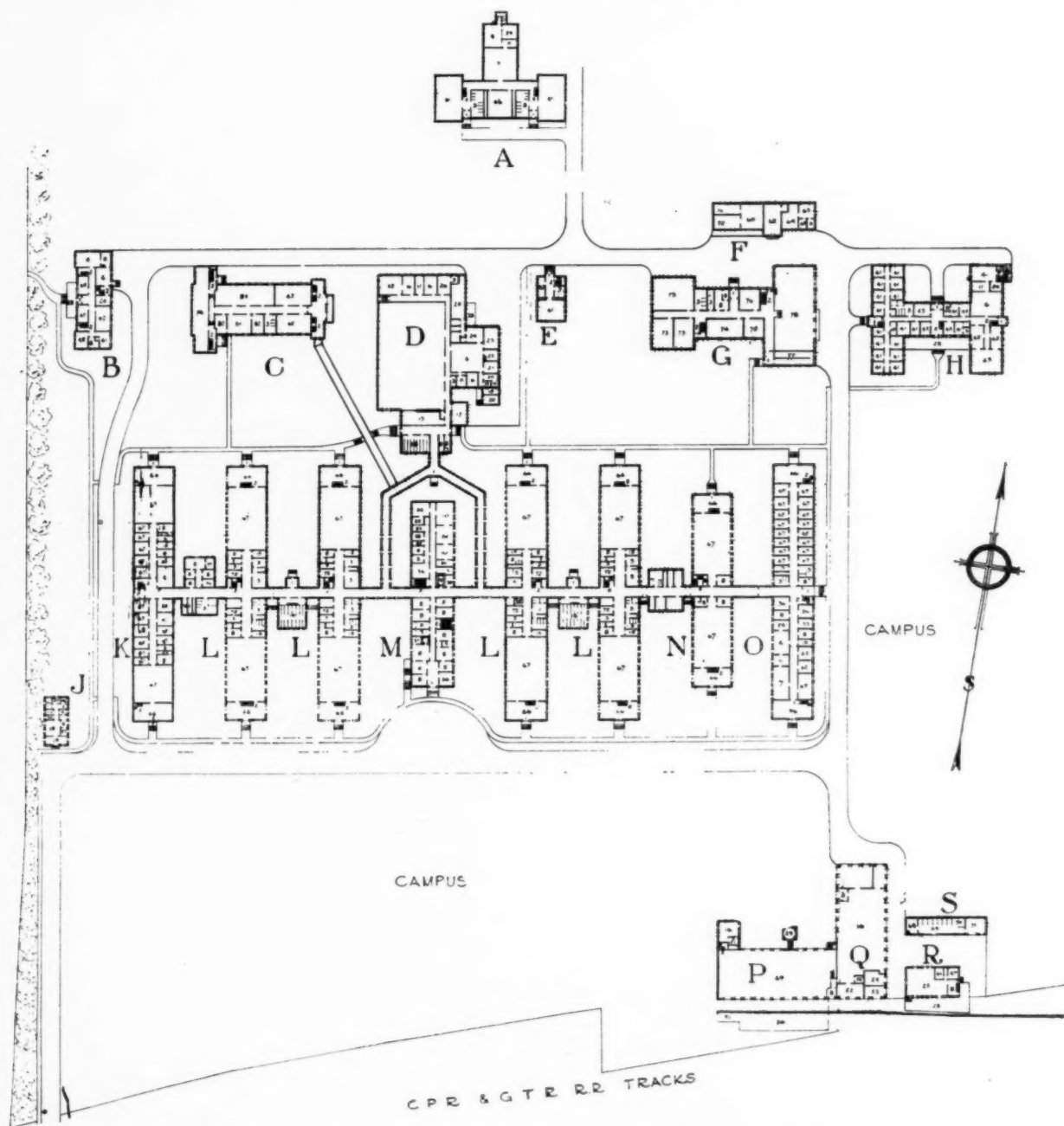


Figure 8. Block plan of the Military Hospital at Ste. Anne de Bellevue, P. Q., Canada.

made as the result of consultation with experts.

The Dominion Orthopedic Hospital in Toronto is also regarded as a permanent institution. The orthopedic cases not only receive treatment, whether surgical, electric, or massage, but all appliances requisite for each patient are made here. In planning the main hospital building the

accommodation was also provided at Ste. Anne de Bellevue for oral and facial cases.

The building required for the care of the tuberculosis patients calls for a separate article, but it may be mentioned in passing that accommodation for over 1,000 patients was erected by this department exclusive of the additional buildings

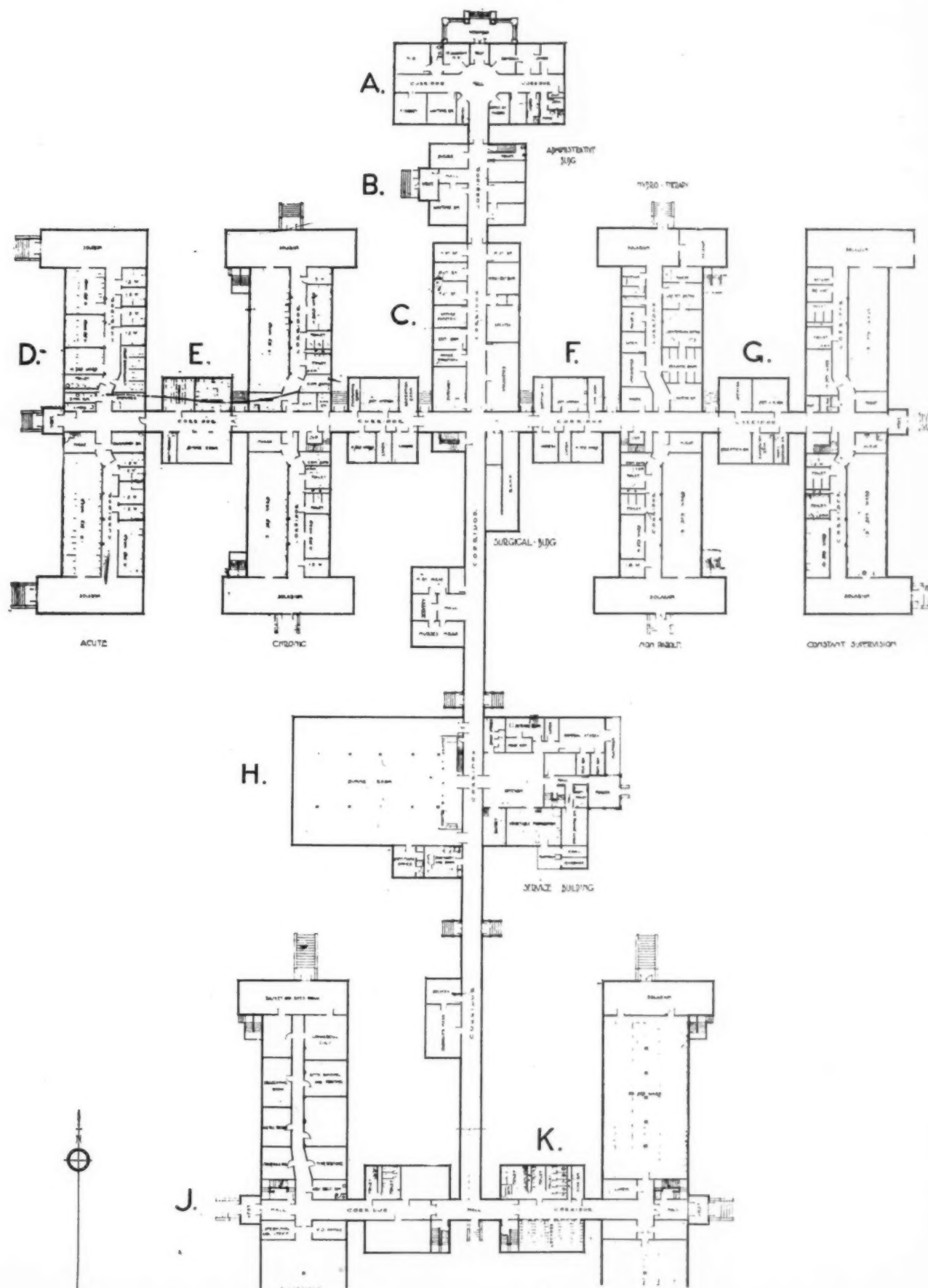


Figure 10. First floor plan of the Psychopathic Hospital, London, Ontario, Canada.

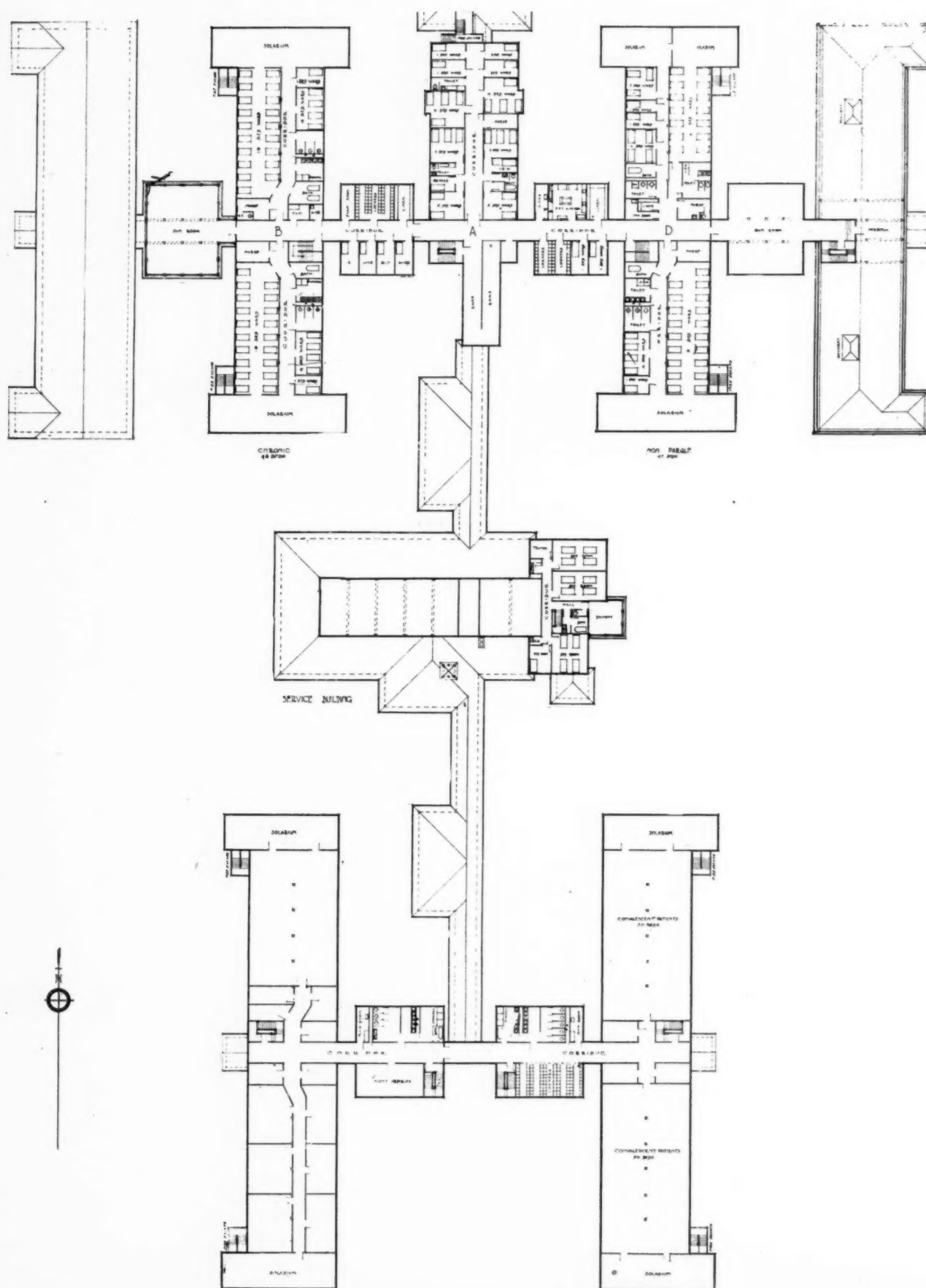


Figure 11. Second floor plan of the Psychopathic Hospital, London, Ontario, Canada.

erected in connection with the Provincial Sanatoria.

It may be noted that the military hospital work in Canada was a problem of its own, and very little assistance in its development could be obtained by studying the buildings in France or England. The Americans were too late in the war to be of any service in this respect; they developed a one-story hospital scheme, but later realized that two-story buildings were more

hospital was approximately \$1,650.00—in this cost being included the pro rata portion of all buildings on the campus, and all utilities such as heat, light and water service, and also grading, road making, and fencing.

The cost of the hospital at London, on account of being of more permanent construction was about \$2,500.00 per bed.

In regard to the cubic contents of the wards per bed, an average of 650 cubic feet per patient

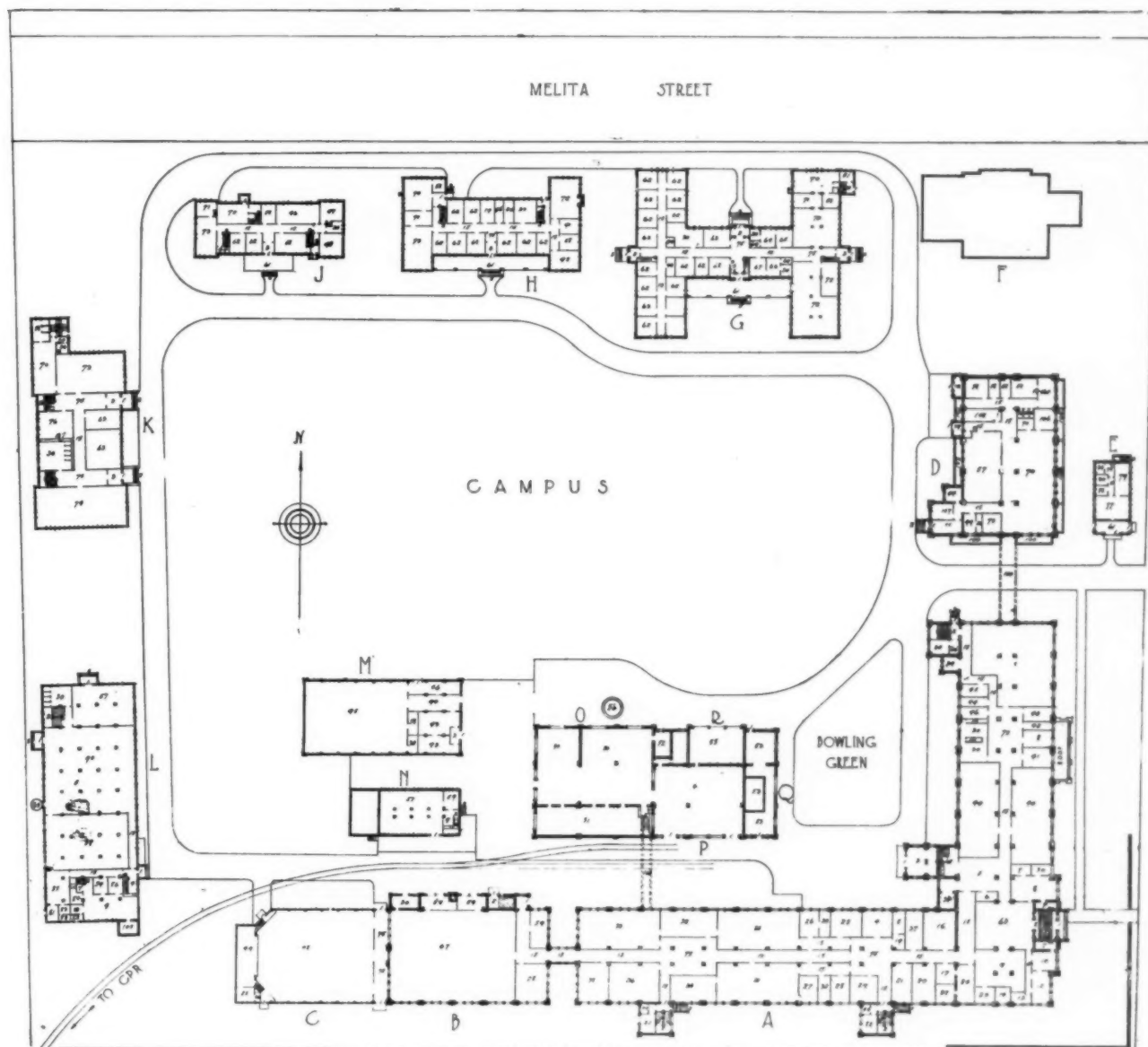


Figure 12. Block plan of the Dominion Orthopedic Hospital, Toronto, Canada.

adaptable on account of advantages of administration, maintenance, and cost of erection. In Canada the first pavilions erected were two stories, and this scheme was carried out through the entire war time; the original plans only being altered from time to time as new requirements demanded.

The cost of the buildings per patient bed in the

at least was maintained at all centers, and a window surface of 25 per cent the total wall space in each ward.

Some idea of the extent of the program of the military hospital's work may be obtained when it is realized that about \$18,000,000.00 has been spent by the government in this work. The bulk of the buildings were erected and equipped in

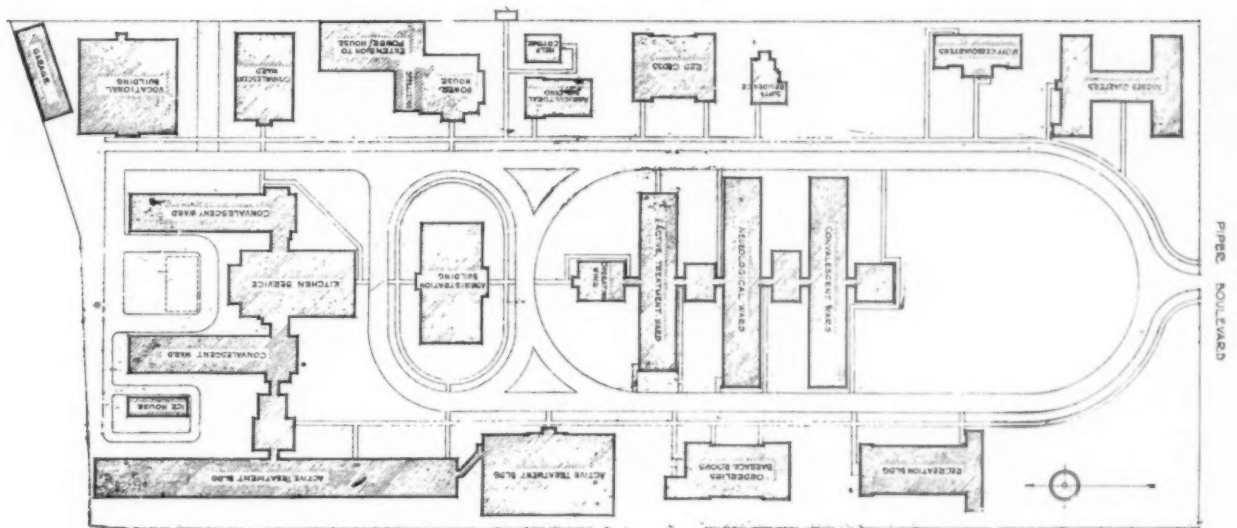


Figure 14. Block plan of the Military Hospital, Tuxedo Park, Winnipeg.

age done by fire during all the years these hospital units have been in operation) are serious arguments in favor of large acreage for hospital sites and two or three story buildings.

All this should have considerable effect on future civic hospital planning and equipping. In view of the fact that the military hospitals were erected, equipped, and maintained out of government monies and were thus not dependent upon civic or personal donations, an advantage was taken of this fact (especially as regards equipment) to have the best that scientific research could demand or genius design for the aid and recovery of this great and unusual number of patients. Standards have been created that both as regards planning and equipping must now be lived up to.

Very little loss, if any, will ensue in Canada chargeable against the expenditure for military hospitals, as most of the buildings have been erected on permanent foundations and in such a manner as to admit of a future exterior facing of stone or brick to the upper stories.

Some hospital centers will be turned into military hospitals and barracks for the permanent force; others will be taken over for special work, such as mental hospitals for women and children; but the planning, construction and equipment will demand that they be utilized for some good service.

Canadian citizens are grateful to those in charge to find that "after the smoke of battle," they have such an asset that may be utilized for the needs of the times in the military hospitals erected by the public works department of the Dominion of Canada.

Ambition scarce produces any evil but when it reigns in cruel and savage bosoms.—Fielding.

COMBATING CANCER


The recent contribution by Prof. Alexander Fraenkel, secretary of the Austrian Society for Combating Cancer,¹ is commented on in the December 20 issue of *The Lancet*.

Dr. Fraenkel sets out clearly and in detail the pathological facts of human and animal cancer and the results of experimental study of the disease. Due prominence is given to the part played by chronic irritation and the great variety of forms which this factor may take, ranging from chemical irritants to gross Metazoan parasites, such as Bilharzia and the Spiroptera found by the Danish investigator, Fibiger, associated with cancer of the stomach in rats. Fraenkel regards this variety in origin as practically excluding a parasitic etiology of cancer, and he goes on to remark acutely that the same variety in the predisposing factors renders any attempt at a specific cancer prophylaxis nugatory, apart from a general improvement in the prevention of all diseases.

The rare cases of spontaneous cure of cancer, and the more numerous instances of success after incomplete operations, are regarded as of the most happy augury for success in the ultimate triumph of a rational therapy. Early and complete removal is emphasized as still the most successful method of treatment, full recognition being given at the same time to the brilliant results of radiotherapy in suitable cases. Fraenkel then goes on to an account of the chemo-therapeutic experiments of von Wassermann and others, emphasizing the necessity of improved methods of diagnosis early in the disease and of research in this direction.

The article concludes with a severe indictment of the extravagant claims of Adamkiewicz to have produced a practically infallible cure with his cancrin, the soluble toxin of a supposed protozoan parasite of cancer. The danger to the credulous public from such irresponsible claims is not less in other countries than in Austria and, shorn of its verbose and florid style, an article conceived on similar lines and circulated broadcast might do something to put down the raising false hopes by interested people, and to encourage the efforts of those who, without hope of material reward, are seeking the solution of one of the most fascinating as well as one of the most serious problems in medicine.

1. Ueber die Heilbarkeit der Krebskrankheit, Wien. klin. Wchnschr., November 13, 1919.



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LACK OF HOSPITAL LIBRARY A SERIOUS HANDICAP

One of the serious handicaps under which the hospitals of America have labored for many a year has been the absence of any Central Hospital Library and Service Bureau to which they could appeal when in need of information or guidance. A few superintendents, to be sure, have, in the course of years, collected small libraries and special indexes of hospital literature to meet their own needs; but there is no large central library of this literature accessible to the general public. There is no place to which hospital superintendents, members of building committees, and architects can turn to find a complete special index of published information regarding hospitals and allied institutions. There is, moreover, no extensive collection of plans and specifications of these institutions, or lists of equipment based on their actual operation.

That such a library and service bureau would be of inestimable value and fill a long felt need is evident from the steady stream of questions that flows into the offices of the American Hospital Association, The Modern Hospital Publishing Company, the American College of Surgeons, the American Association of Industrial Physicians and Surgeons, the Russell Sage Foundation

and the offices of the more prominent hospital superintendents. The questions are asked by those who are interested in, and responsible for, the seven thousand hospitals, more or less, now in existence in this country and for the hospitals that are constantly being erected.

Such a library would centralize and make readily accessible the rapidly growing literature on hospitals. At present this literature is fragmentary and scattered. It lies buried in the literature of medicine, architecture, engineering, business administration and other fields. From these sources it must be culled, collected and classified for use.

Such a library and service bureau would be the means of saving large sums of money by making the accumulated experience of the years readily available to all who chose to avail themselves of it. At present the lack of such a library and service bureau makes it exceedingly difficult, and at times almost impossible, to utilize past experience. Those who are responsible for new hospital projects often resort to the expedient of traveling at considerable outlay of time and money from city to city inspecting existing hospitals only to find their minds confused rather than clarified. This procedure often results in frequent changes at great expense, after contracts have been let and the work commenced. Not infrequently it results in the incorporation of unique rather than soundly serviceable features—features that have not stood the test of time and often are not adapted to the needs of the new institution under consideration.

Such a library and service bureau would tend to insure the construction of hospitals more nearly suited to the needs they are intended to meet whether those needs be the care of patients, the education of doctors and nurses, or the prevention of disease. Floor space and service facilities would be more economically and wisely arranged, unnecessary features both in construction and equipment would be eliminated, and the right material used in the right place.

What the establishment of such a central library would mean in the way of the more efficient care of the sick and the saving of hundreds of thousands of dollars now squandered on poorly located, poorly equipped, and poorly managed hospitals, can scarcely be conceived. In the decade 1901 to 1910, two thousand forty-seven medical institutions were erected in the United States according to Polk's "Medical Register and Directory" (11th ed. 1910). This is almost double the number of medical institutions that were established in the decade preceding, 1891 to 1900. In the decade 1910 to 1920 an additional four thousand hospitals were probably erected,

making a total of about seven thousand medical institutions in existence in 1920. This gives one some conception of the extent of hospital construction, the capital invested, and the amount of hospital work being done. The magnitude and growing importance of the field, no one can deny, and it is high time that some central library and service bureau such as is here suggested were called into existence. Happily, there is reason to believe that one will shortly be established.

EDUCATIONAL OPPORTUNITIES OF ARMY MEDICAL DEPARTMENT

In addition to the performance of his regular military duties, every man who now enlists in the army has the opportunity to continue his education and vocational training. This is a feature of army administration which has grown out of the World War. That war, as Col. Henry F. Pipes, M.C., U. S. A., puts it in his article on *The Training Opportunities in the Medical Department, U. S. A.*, brought about "the establishment of a more intimate relationship between the military machine and its enlisted personnel and an appreciation on the part of the officials that the army must train men not only in their military duties but along lines of benefit to themselves, and the country at large." These opportunities for training are available no less to men who enlist in the medical department in the army than to those who enlist in any other department.

The general plan provides for vocational instruction in sixty-seven essential and forty-seven less essential subjects grouped under seventeen departments. It is not, of course, intended to give all of the courses at each camp or post. The courses to be given at the various camps will depend largely upon the character of the camps and their facilities. At Camp Vail, New Jersey, for example, where the training school of the signal corps is located, courses in electrical subjects will be established, while at Camp Holabird, Maryland, the training camp of the motor transport corps, subjects relating to the automobile and other gas engines will be taught. At divisional camps a greater variety of subjects will be available.

Soldiers taking vocational training will be encouraged to take related educational courses. At the completion of these courses, they will receive a certificate from their local commanding officer indicating their satisfactory completions. Ultimately when the courses have been placed on a plane comparable to the best courses to be had in civil life, the war department plans to adopt a standard certificate for the entire service. The

conditions under which these certificates are to be issued will be such that any discharged soldier bearing a certificate showing that he has qualified for a particular occupation will, as Dr. Pipes puts it, "need no further proof either of character or proficiency when seeking civil employment."

While the training program of the Medical Department of the Army has not as yet been fully perfected, steady progress is being made. Those who are interested in looking over the list of the courses of instruction are referred to Dr. Pipes' article. Particular attention, however, is called to the special courses in bacteriology, pathology, and radiography which may be had by qualified men at the Army Medical School, Washington, D. C.

PLANNING THE DIETARY DEPARTMENT

That which may or should be required of a dietitian in a hospital or other institution, and the training she should have to meet these requirements, are subjects that are being much discussed by dietitians and other hospital executives. Many and varied are the suggestions offered.

At the present time and for months past many institutions of many kinds have been wanting to secure dietitians, but none were available, or at least not nearly enough to supply the demand. In a few weeks the schools of the country will be releasing large numbers of young women who have completed a course in Home Economics. All too frequently the system, if it may be called a system, of adapting these numerous graduates to the work of a dietitian has been something as follows: The superintendent of the hospital writes to the head of the Home Economics Department of some school with which he is more or less familiar, asking her to send him a dietitian. She puts him in communication with some member of her senior class who may be chosen because of her interest in dietetics, or because she seems to rank above the average in common sense or judgment, or because of her lack of promise as a teacher, or for some other equally irrelevant reason. Very seldom does the superintendent make an effort to inform himself on the type of training given at that particular school; neither does the head of the school investigate conditions in that particular hospital, or find out its standards. Both of these people will say they are "too busy"—that inevitable excuse for failing to do a thing right. Is there any one in the hospital or college world who is doing a worth while piece of work who is not very busy? Does not the above mentioned haphazard method often result in a difficult situation which requires much more time to adjust than would have been required to

go about it intelligently in the first place.

Will it not be worth while to give a little thought to the plan for your dietary department next year, planning what may be done, and the best way of doing it? In the not very distant future, a hospital with a badly managed dietary department will be out of date and in disrepute.

The papers published this month in the Department of Dietetics and Industrial Food Service, pp. 393, have been selected with the purpose of presenting the possibilities and point of view of at least one college instructor of dietetics, one hospital dietitian, one medical man doing scientific work, and one medical practitioner.

ACQUAINTING FOREIGN BORN WITH HOSPITALS

One of the interesting features of the financial campaign conducted by the United Hospital Fund of New York City recently was the circulation among foreign born of leaflets of instruc-

NEW BRITISH AMBASSADOR A PHYSICIAN



SIR AUCKLAND GEDDES, M.D.

SIR AUCKLAND GEDDES, recently appointed British Ambassador to the United States, is a physician with the rank of cabinet minister. Sir Auckland received his degree of Doctor of Medicine at Edinburgh, where he studied under Sir William Turner. During the period of his incumbency of the chair of anatomy to the Royal College of Surgeons of Ireland he made a number of contributions to the literature of anatomy and embryology. In 1913 he was appointed professor of anatomy at McGill University, Montreal, from which post he resigned to enter military service during the war. He became minister of national service. His election to Parliament from Hampshire was followed by his appointment to the ministry of reconstruction. As President of the Local Government Board he was instrumental in the passage of the Act creating the Ministry of Health.

In April, 1919, he was made principal of McGill University, but did not assume this office on account of his subsequent appointment as president of the Board of Trade. As ambassador to the United States he brings to that post the training and mental habits of a physician. He has exhibited an active interest in matters pertaining to medical education and his views in regard to the medical profession are set forth in his recently published volume of "Contributions to Medical and Biological Research."

tion relative to the location of their nearest hospitals, and the method of calling for an ambulance in instances of accident and serious illness. This educational campaign grew out of a representation made by the American inter-racial division of the fund showing that 90 per cent of New York's foreign born people did not know that free hospital service is open to them.

Does not this educational campaign contain a pregnant suggestion for hospitals of other communities having a high percentage of foreign born people among their citizenship? The situation in New York is indicative, broadly speaking, of the situation in Chicago, Philadelphia, Boston, Cleveland, and Detroit (to name the five cities other than New York having the highest ratio of foreign born people to the general population), unless these communities have already taken steps to bring their hospital facilities to the attention of the foreign born within their borders.

The character and intensity of such an educa-

tional campaign would, of course, have to be adapted to the various foreign born groups. Recent studies clearly show a marked variation in the use of hospitals by the different race groups. The Jewish people probably use the hospitals two or three times as much, relatively to the population, as a recently immigrated Slavik group. Broadly speaking, whatever is true of the race group as a whole is true of the foreign born members of this group, the foreign born, if anything, showing a greater tendency not to use hospital facilities. If the use of hospital facilities is desirable for the American born citizen, is it not equally desirable for the foreign born and is it not incumbent upon our larger centers of foreign population to see that none are ignorant of the available hospital facilities? Their more extensive use by the foreign born will unquestionably make for sounder and healthier communities.

NEW YORK BILL PROVIDES NETWORK OF HEALTH CENTERS

On page 382 we print a memorandum dealing with the provisions of a bill recently introduced in the Legislature of the State of New York, to amend the Public Health law of that state, so as to provide for residents of rural districts, industrial workers, and all others who cannot otherwise secure such benefits, adequate scientific medical and surgical treatment, hospital and dispensary facilities, and nursing care; to assist local medical practitioners; and in general to improve the health of the state by authorizing a county, city, or consolidated health district to create and maintain one or more health centers. The bill provides for state aid necessary to carry out its provisions.

This bill embodies one of the most advanced and almost revolutionary moves made by any state to protect and promote the health of its citizens. If it actually becomes law, it will place New York State at the forefront in public health work. The bill takes cognizance of one or two outstanding facts in the social life of today. It recognizes, first of all, that, while medical science has made extraordinary advance during the past twenty-five years, the benefits resulting therefrom are available only to a small fraction of the population; and in the second place, that while this great advance in medical science is in progress, the conditions of medical practice in many small cities and in the rural districts quite generally, are changing for the worse, due to decrease in the number of physicians taking up practice in rural districts and the growing lack of trained nurses and domestic servants, making the adequate care of the sick, particularly in the home,

increasingly difficult, and often impossible. In the face of these facts, some fairly radical steps are called for. Those who sponsor the bill contend that its enactment and the establishment of the health centers provided for therein would "greatly aid in the coordination of the public health activities of the district; would prevent overlapping of effort, promote economy in administration and make possible the extension of an efficient health service to every portion of the district."

THE CONTRIBUTION OF THE HOSPITAL TO THE SURGERY OF TODAY

Emphasis is laid by Dr. Jasper Halpenny on the responsibility of the board of trustees for knowing that the man who proposes to operate in the hospital is competent to operate. The hospital board should also insist on a complete record being kept in the record room. "The staff should include thoroughly trained nurses and also sufficient clerical staff to insure the proper keeping of records. For purposes of having the actual steps of the operations recorded and to save the surgeon's time, the hospital should provide some one to take notes on the operation, or should have a dictaphone in a nearby room for the use of the operator when the case is finished."

Dr. Halpenny believes that the hospital not connected with a medical school is not thereby excused from being a teaching center.

"One of the weaknesses in the practice of surgery is that men tend to become stationary and call it standardizing their work. A surgical research department in a hospital would save the surgeons from becoming fossilized.

"This surgical research department does not need to be extensive, nor yet expensive. It should provide facilities for doing entirely new work or for repeating work reported from other laboratories. It would provide an opportunity to test out different surgical procedures and to become proficient in them.

The direct preparation for surgery, in Dr. Halpenny's opinion, should begin after graduation. The very high regard that a surgeon has for living tissue can not be harmed, moreover, by working on dead tissue.

"After finishing the academic term, no student should be given a license, and possibly not a degree, until he or she had served at least one and better two years' residence in an approved hospital. All students, irrespective of whatever specialty they may intend to follow, should have this general training in a hospital. (For men who have got thus far at a fairly early age, say twenty-three or twenty-four, two or three years spent in general practice would be of great value to the surgeon-to-be.)

"At this stage a man who wishes to be a surgeon should begin to get the special training necessary to equip him, but not before, as resident surgeon in some well organized teaching hospital, or associate himself with some surgeon of wide experience and good judgment for an equal length of time. Many young men would most gladly spend this amount of time in a hospital if a fair stipend were offered. Safe it is to say that for the second year's residence in hospital, the intern would be content with even the pay of the operating room orderly. The young man who is willing to spend all these years in training for highly specialized service for the public, is surely entitled to some financial remuneration during the last years of his training, which years, be it remembered, are full of service to the people."

MEMORANDUM ON THE NEW YORK HEALTH CENTER BILL*

MEMORANDUM as to the provision of a bill authorizing a county, city, or consolidated health district to create and maintain one or more health centers and providing state aid therefor.

Purposes of the Bill

(1) To provide for the residents of rural districts, for industrial workers, and all others in need of such service, scientific medical and surgical treatment, hospital and dispensary facilities and nursing care, at a cost within their means or, if necessary, free.

(2) To assist the local medical practitioners by providing: (a) Facilities for accurate diagnosis by a coordinated group of specially qualified physicians and surgeons, both for hospital patients and for out-patients. (b) Consultations and advice as to treatment by medical and surgical experts. (c) Clinical, bacteriological, and chemical laboratory service and x-ray facilities at moderate cost or free, when necessary.

(3) To encourage and provide facilities for an annual medical examination to detect physical defects and disease, to discover conditions favorable to the development of disease, and to indicate methods of correcting the same.

(4) To provide or aid in securing adequate school medical inspection and school nursing service, in cooperation with the Department of Education.

(5) To secure or aid in securing better enforcement of the Public Health Law and a more effective administration of Public Health activities within the area served.

(6) To provide a public health nursing service adapted to and adequate for the community served.

(7) To aid in securing the dissemination of information in regard to public health throughout the area served.

(8) To aid in securing adequate compensation for medical and surgical care rendered in hospitals and clinics, in order that efficient service may be everywhere available.

(9) To provide laboratories, group diagnosticians, consultants, and hospital facilities in the smaller cities and rural districts; to counteract the growing tendency of medical practitioners to remove to larger centers, and to attract to and to retain in the practice of medicine in these communities a larger number of qualified practitioners of both sexes.

(10) To provide medical libraries, including books, pamphlets, periodicals, leaflets, exhibits, moving picture films, and kindred educational facilities, with halls for meetings if needed.

(11) To provide hospital and other necessary resources for dealing promptly with epidemics.

(12) To reduce illness and disability among the industrial workers of the state by providing prompt and accurate diagnosis and efficient treatment for sick and injured workers and the members of their families.

(13) To coordinate public health activities within the districts.

Health Centers Provided

(1) A health center may consist of the following parts, any one or more of which parts may be established at one time with the approval of the State Commissioner

of Health and the formulation of a general plan for the whole center.

(a) *Hospitals*.—The erection of new hospitals or arrangements with other institutions, or both, so that they shall form essential parts of the center. Such hospitals may include as units thereof existing or hereafter established hospitals or pavilions for the care of tuberculosis, for cases of other communicable disease, for children, for cases of maternity and mental diseases, and for other groups. Existing tuberculosis hospitals may become parts of the health center of a city or county by which they may have been established.

(b) *Clinics for Out Patients*.—These would include especially those now regarded as public health clinics, such as those for tuberculosis and venereal disease, prenatal and child welfare, mental and nervous diseases and defects, and clinics for school children, dental clinics, and also medical, surgical, and diagnostic clinics.

(c) *Laboratories*.—Clinical, bacteriological, and chemical laboratories, auxiliary to the state laboratory, and x-ray laboratories would provide services at moderate charges, or free, affording modern laboratory facilities needed in the diagnosis and treatment of disease.

(d) *District Health Service*, with a district health officer and deputy health officers in various parts of the district, such districts to be either a city or county, or a consolidation of two or more existing health districts (such consolidation to be approved by the State Commissioner of Health). The present health officers in these districts shall act as deputies during their present terms of office. In the subsequent appointments of deputies in the various portions of the districts, persons residing therein possessing the qualifications prescribed by the Public Health Council shall have preference. Each local health board shall appoint for its own town or village a deputy to the health officer of the health center district.

(e) *Public Health Nursing service* for all parts of the district.

(f) *Center for School Medical Inspection*.—Proper medical supervision and facilities to enable practitioners to provide adequate treatment for all school children showing physical defects or disease.

(g) *Headquarters*.—All health, medical, nursing, and other public welfare activities of the district which wish to utilize the center could make it their headquarters.

(2) The locations, sites, plans and initial equipment of the health center shall be subject to the approval of the State Department of Health. The State Department of Health and the State Architect shall provide model plans for such centers for any community requesting them.

State Aid to Health Centers

(1) To be granted for each hospital bed constructed or provided for under this statute. (a) For new construction and equipment of hospitals, one-half of the cost to be paid by the state, such payment not to exceed \$750 per bed; and beds for the purpose of this provision to be in proportion not in excess of one to each five hundred of the population. (b) A grant of seventy-five cents per day for every free patient maintained in any hospital operated as a part of a health center.

(2) To be granted for clinics and annual medical examinations. (a) A grant for the creation of out-patient clinics equal to one-half of the initial cost of establishment, the amount to be paid by the state for this purpose not to exceed \$5,000 per clinic, and twenty cents for each free patient in such clinic; one such center for each district, provided that in counties or cities or districts having more than 50,000 population there shall be not

*This plan and memorandum were prepared by the State Department of Health to carry out the recommendations of Governor Alfred E. Smith of New York, made to the legislative session of 1920.

more than one health center per 50,000 inhabitants or major fraction thereof. (b) A grant of fifty cents for each free comprehensive annual medical examination made at the health center.

(3) *For the maintenance of laboratories*, a grant from the state of one-half of the annual cost of maintenance of laboratory of health center, the sum to be paid by the state not to exceed \$3,000 per annum for each laboratory, and \$1,500 toward the initial installation and equipment of such laboratory.

(4) *For salaries of deputy health officers*, a grant of ten cents *per capita per annum* toward the salaries of deputy health officers in health districts having less than 1,500 population, and of five cents *per capita per annum* in health districts having a population between 1,500 and 3,000, in addition to such salaries as they are entitled to receive from the local treasury.

(5) The total annual grants for the construction of hospitals and clinics shall not be in excess of \$2,000,000; and for the maintenance and operation not in excess of \$2,000,000. Salaries and traveling expenses of consultants and experts employed by the State Department of Health, and other expenses necessarily incurred by the State Department of Health in the enforcement of this Law, shall be paid from the sum appropriated for grants toward maintenance and operation of health centers—this sum not to exceed \$250,000 *per annum*.

General Provisions

The District Health Officer may be the superintendent of the hospital and general director of health of the district and of the hospital and medical activities connected therewith. The qualifications for district health officers, deputy health officers, superintendents of hospitals and medical activities, chiefs of clinics, and other medical officials and nurses shall be fixed by the Public Health Council, and their appointments be subject to the regulations of the State Civil Service Commission.

The work of all health centers, hospitals, clinics, and district laboratories connected therewith shall be inspected and standardized by the State Department of Health, and the state grants shall be paid only on the written approval of the State Commissioner of Health.

Provision shall be made for occasional or periodic consultations or clinics at the health centers by specialists in medicine and surgery to be furnished through the State Department of Health, and wide previous public announcement of these clinics and consultations shall be made. At these consultations and clinics health officers and physicians may bring their patients for assistance in diagnosis and for advice as to treatment. Fees received from these consultations for the state service shall be credited to the hospital or center where the service is rendered.

The health center laboratories shall be under the supervision of the director of the State Health Department Laboratories, in order that their work may be maintained at a high level of efficiency; and the facilities of the state laboratory service shall be available to supplement those of the laboratories of the health centers.

The salaries of the medical and surgical staff, the fees for medical and surgical care, and the conditions for free service in the hospitals and clinics, shall be determined by the Board of Managers. The method of appointment and composition of such boards of managers of the health centers and hospitals to be provided for in this bill.

We hail science as man's truest friend and noblest helper.—Harvey.

TRAINING OPPORTUNITIES IN THE MEDICAL DEPARTMENT, UNITED STATES ARMY

By COLONEL HENRY F. PIPES, Medical Corps, United States Army

Since the resumption of recruiting for the army on February 28, 1919, the Medical Department has obtained approximately 15,500 men by voluntary enlistment. Many of these men will be discharged during the calendar year and the vacancies thus created will be filled by new men. It is the purpose of this article to explain what the Medical Department, including the Dental and Veterinary Corps, offers by service within its ranks, so that prospective applicants, their parents and relatives, and others may realize the many material advantages that are available to those who enlist in the service, either for a career or as a stepping-stone to other fields of work.

In past years much has been unjustly said in detriment to our service men. Fortunately the present publicity campaign, now being conducted by the War Department, is educating the public to a better knowledge of what the Army really is, and to a greater appreciation of the fact that it is an institution which, by its operation, is furthering the Americanization movement under way in our country. The World War caused certain beneficial results in the administration of our Army, and notably among them were the establishment of a more intimate relationship between the military machine and its enlisted personnel, and an appreciation on the part of the officials that the Army must train men not only in their military duties but along lines of benefit to themselves and the country at large. The educational and vocational training policy was consequently adopted and is now being put into execution. A practical system of coordinated educational and vocational training is being perfected so that all men who desire it may secure training that will render them more effective for military service, and at the same time more fit for success in civil life.

The plan is an excellent one and it places the Army on a basis whereby it does not have to compete with labor to secure adequate personnel. It offers practical training opportunities as well as financial and other benefits. It must be emphasized, however, that military duties take precedence over vocational and educational training. The "Army builds men" and it does so to a large extent through its maintenance of military discipline and training. In the Infantry a soldier will perform guard duty and go to drill. In the Medical Department there will be full performance of all duty required by the Department.

General Plan of Training in Army

Inasmuch as enlisted men of the Medical Department may, whenever practical, avail themselves of the training opportunities, both vocational and educational, existing at their own station, post, or camp, the general plan of training as adopted by the War Department should be considered. There are sixty-seven essential and forty-seven less essential subjects embraced in vocational training, grouped under seventeen departments, namely, automotive, electrical, building, textile, food, animal transportation, metal, printing, medical, highway construction and topography, music, leather, mechanical, miscellaneous, business, and agriculture. The educational training consists of two courses, basic and advanced. It is not intended that all the various courses in vocational training will be established at each post and camp in the Army as obviously this cannot be accomplished. Certain camps will specialize in certain lines of work. Camp Holabird, Maryland, the training camp of the Motor Transport Corps, will specialize along automotive lines; Camp Vail,

New Jersey, the training school of the Signal Corps, in electrical subjects, and general hospitals in medical and hospital training. The divisional camps, Camp Tabor, Ky., Camp Travis, Tex., Camp Pike, Ark., Camp Dodge, Ia., Camp Gordon, Ga., Camp Grant, Ill., and Camp Funston, Kansas, are the places where the greatest variety of courses will be successfully taught. It is recognized that it is impracticable to establish courses in a wide range of subjects at small posts, but it will be possible to give practical instruction in a number of useful vocations and in educational training to meet all reasonable desires. Each soldier taking vocational training is encouraged to take a relative educational course and upon completion of his instruction he is given a certificate by his local commanding officer certifying his satisfactory completion of his particular line of training. Eventually a standard War Department Certificate will be adopted for general use throughout the service. However, this will not be done until the time when the certificate will represent for each vocation a certain definite degree of proficiency, uniform throughout the entire service, and fully meeting the requirement of civil life, as well as of the Army. The standards adopted will be such that a discharged soldier, character "Excellent," with a War Department certificate showing that he has qualified, for instance, as a carpenter, will need no further proof either of character or of proficiency when seeking civil employment as a carpenter. Similar War Department certificates covering educational subjects will, it is expected, be accepted by civil educational institutions as evidence of proficiency in such subjects.

Medical Department Training

In the matter of training, the Medical Department combines theoretical with practical instruction. In the performance of their duties, Medical Department enlisted men are constantly acquiring practical training in the line of work to which they have been assigned. In each department of a hospital and in other Medical Department units, this training is going on. In the offices we find men, under competent supervision, becoming proficient in typewriting, stenography and clerical work. In the operating room, minor surgery and surgical technique are imparted to its enlisted force; in the wards, nursing and ward management is taught; in the kitchen, cooking, care of funds and mess management; and in such special department, laboratory, work shop, and other assignment, the enlisted man is trained in his particular duty.

It is prescribed by the Manual of the Medical Department that regular classes of instruction be held in pharmacy, anatomy, physiology, first aid and nursing, and for selected men, courses in cooking and diet cooking, materia medica, and pharmacy, elementary hygiene, and clerical work. In addition to those courses of instruction, classes may be established for the training of the following:

- (a) Laboratory assistants and technicians.
- (b) Chauffeurs and relative automotive work.
- (c) Stenographers and typists.
- (d) Dental hygienists.
- (e) Instrument repairers.
- (f) Cooks.
- (g) Saddlers.
- (h) Horseshoers.
- (i) Physio-therapeutist.
- (j) Food and forage inspectors.
- (k) Packing house foreman.

At any post, camp, or station, where facilities are provided for instruction in other recognized courses by agencies other than the Medical Department, enlisted men of

the Medical Department who desire to take advantage of any course will, if practicable, be afforded the opportunity to attend it. Courses already under way for patients at general hospitals under the section of physical reconstruction may be attended by enlisted personnel of the Medical Department at the discretion of the commanding officer of the hospital.

Special training is available for qualified men at the Army Medical School, Washington, D. C. Courses of instruction are given at this school in bacteriological and pathological work, for qualification of men as laboratory workers, and also training in radiography for service in X-ray work at certain hospitals.

Recent instructions issued by the Department provide that every endeavor be made by the commanding officers of general hospitals and post surgeons to better the efficiency of their men. It is prescribed that the better details about a hospital will be filled by enlisted men in preference to civilian employees in order that the enlisted men may acquire the best available training and receive advancement when qualified. These instructions are general and apply to both privates and non-commissioned officers.

The training program in the Medical Department has not reached, as yet, its highest degree of perfection, and the same may be said of that of the Army. Both, however, are progressing and eventually will reach a higher order of merit.

JERSEY CITY HEALTH WORK

Hon. Frank Hague, Mayor of Jersey City, who has been much interested in matters pertaining to Public Health, had under consideration the concentration of all medical activities in Jersey City. As a result of this, the position of Medical Director of Jersey City was created, and Dr. John Nevin appointed in January, 1919.

The Medical Director has direct supervision over the Jersey City Hospital, Isolation Hospital, Board of Health, Division of Child Hygiene, the City Physicians, and various City Departments. The position is somewhat unique in that it is, perhaps, the first position of its kind in this country created to place the responsibility for the proper working of these units. It is in line with modern administrative methods.

The Board of Health is separated into two divisions, Medical and Sanitary. The Medical Division has a staff of nurses and physicians who control contagious diseases, etc. The Sanitary Division is sub-divided as follows: Milk Inspection, Plumbing Inspection, Sanitary Inspection, Food and Drug Inspection, Legal Division, and Division of Chemistry.

The inspection of milk particularly is done under a somewhat elaborate system, inspection taking place at the points of production (dairies, creameries, etc.) as well as at points of distribution in Jersey City—and with very satisfactory results in the quality of milk.

The Isolation Hospital is a hospital for contagious diseases.

Child Hygiene and Mothers' Institute

The Division of Child Hygiene deals with the life of children from the pre-natal period to school age, and its functions are: (1) the reduction of infant morbidity and mortality; (2) supervision of infants boarded out in private houses; (3) inspection and supervision of day nurseries; (4) control and supervision of midwives. There are eight stations so distributed geographically that each section of the city is covered. At each station there is a visiting physician and a visiting nurse. These stations

are intended as consultation places for mothers. They are also distribution centers for milk. Home modification of milk is provided for.

A recent addition to this Division which, it is expected, will produce exceptionally good, far-reaching results, is the opening of what is called the Mothers' Institute. This is the headquarters of the Division, and its object is essentially educational. A large assembly hall is to be used for lectures and demonstrations to mothers, prospective mothers, and midwives, and each week instructions will be given in dietetics.

It is provided with a well-equipped ward and laboratory with up-to-date apparatus for the modification of milk. Resident Nurses are in attendance, and cases of malnutrition who cannot receive proper care at home will be placed in the ward for the necessary period.

Health Center in City Hospital

The Medical Director has so systematized the work as to create a Community Health Center, namely, The City Hospital, and from this point radiate all of the chief medical activities. The report of the work done at the City Hospital proper shows the necessity for an institution of high type, physically and scientifically. It is generally recognized that while an institution such as this is expensive in construction and up-keep, it pays for itself in the service it renders the community. When the Jersey City Hospital is fully completed and equipped, it will compare favorably with any hospital of its type in this country. X-ray and pathological laboratories are about to be installed and will be complete and up-to-the-minute.

The ambulance service is sufficient to meet almost any emergency, and consists of six Cadillac ambulances fully equipped.

The following is a statistical report for the year ending December 31st, 1919, of the Jersey City Hospital.

Total patients treated in hospital wards.....	5,759
Cases treated in Out-Patient Department—	
New cases	8,885
Re-visits	15,165
Emergency room, patients treated.....	5,213
Ambulance calls	4,110
Total number of patients treated in all departments, including re-visits.....	2,180
X-ray	2,180
Major operations	940
Minor operations	1,487

THE WAR'S EMPHASIS ON HEALTH EDUCATION*

In an address on the War's Emphasis on Health Education, Thomas D. Wood, M.D., Chairman of Committee on Health Problems of the National Council of Education, outlined a national program of health education adapted to meet the present day needs for the up-building of the health of the nation. The appalling number of young men unable to serve in the army owing to physical defects, and the statistics showing that 75 per cent of the 20,000,000 school children of the country are handicapped by physical defects, have led to an awakening sense of a national peril to the health and efficiency of the people.

What is being done for the rehabilitation of the men who suffered injury of any sort in the army, is a tremendously worthy undertaking and will repay the nation many times in the mental and physical well-being of its people; but what is being neglected in the care of the

health of the children of the country who form the great citizen army of the future, will cost an inestimable sum in the happiness and efficiency of the nation. Not only is the health of the city child endangered, but what is more appalling, the rural school children are handicapped by more defects than the city pupils. Certainly the children, drafted by compulsory education into the schools, should be assured as skillful and satisfactory care as the soldiers in camp and trench. The health and physical efficiency of the nation depend upon the protection and development of the physical fitness of the young, and only when the country as a whole unites in undertaking a comprehensive program for health training will this be assured.

The possibilities of a broad health program are extremely great in a nation having compulsory education and free schools. Although the actual health care must be accomplished by the home, health boards, and other organizations, the school is the agency through which the national health program can best be launched and carried out.

A brief summary of the items outlined by Dr. Wood, as essential in a national program of health education, are the following:

1. Health examination, and supervision of the pupils' health with provision for (a) daily inspection of pupils, and regulation of attendance at school for the prevention and control of acute and contagious diseases, and (b) health examination and dental inspection, follow-up health service, correction of all harmful, remediable defects by medical and surgical care and by dental and health clinics, and warm lunches for all pupils.

2. A healthful school environment.

3. A hygienic school management which insures conditions in the highest attainable degree favorable and healthful.

4. Effective health training and teaching of pupils, including inculcation of health habits, instruction in facts, principles, and motives which will provide the basis for intelligent and effective action, and education of children for responsible parenthood.

5. Provision for an adequate and rational physical education.

6. Better preparation for teachers for health education.

To provide the essentials of administration for a National Program of Health Education Dr. Wood has submitted the following propositions:

1. That a comprehensive, thorough-going program of health education and physical education is absolutely needed for all boys and girls of elementary and secondary school age, both rural and urban, in every state in the Union.

2. That legislation, similar in purpose and scope to the provisions and requirements in the laws recently enacted in California, New York state, and New Jersey, is desirable in every state to provide authorization and support for state-wide programs in the health and physical education fields.

3. That the United States Bureau of Education should be empowered by law, and provided with sufficient appropriations, to exert adequate influence and supervision in relation to a nation-wide program of instruction and health education.

4. That it seems most desirable that Congress should give recognition to this vital and neglected phase of education, with a bill and appropriation similar in purpose and scope to the Smith-Hughes law; to give sanction, leadership, and support to a national program of health and physical education; and to encourage, standardize,

*Excerpt from address before the National Council of Education, February 28, 1918.

and in part, finance the practical program of constructive work that should be undertaken in every state.

5. That federal recognition, supervision, and support are urgently needed, as the effective means, under the constitution to secure that universal training for boys and girls in health and physical fitness which are equally essential to the efficiency of all citizens both in peace and in war.

FULL TIME PATHOLOGIC INTERNS

By HENRY J. GOECKEL, Phm.D., Director, Pathological Laboratory, Muhlenberg Hospital, Plainfield, N. J.

The Board of Licensure and Medical Practice of the State of Pennsylvania require a hospital to maintain a full time pathologic internship as part of the rotating service for interns. While Muhlenberg Hospital is not in that state, the Governors considered the innovation a good one, and a year ago added a fourth intern to the service, (there had formerly been three interns), giving each one a full three months' service in the laboratory.

After a fair trial of such full time pathologic interns, I, as the clinical pathologist and biological chemist of the institution, regret to say that I do not think such a service is a success from any point of view.

The majority of interns will not be found interested in such work beyond becoming conversant with the few tests adaptable to office use. As practicing physicians they have no desire nor need to become expert in the extended laboratory methods of examination. As they lack interest as well as experience, their examinations are far from reliable and far from complete. As a result, such service is of decidedly limited value to the institution, and in my opinion, a loss of time to the intern, a waste of the hospital's resources through inadequate returns in volume and quality of service, and actually detrimental to the laboratory because of such inefficient service. The three months' time which interns devote to making analyses can be employed to far better advantage to themselves and to the patients, by bed-side observation and by learning how to interpret the results of laboratory examinations in relation to the given case, both from the attending's view and from that of the clinical pathologist. The latter should aid the former in learning the value and limitations and the possible sources of error in such laboratory tests. The intern should be required to check up the results of the examinations with the physical findings and the clinical diagnosis. It would be a good plan to require him to report at the weekly staff meeting the number of each kind of specimens examined, wherein they aided or confirmed the clinical diagnosis, wherein they differed, and wherein they proved of no value.

In a hospital of from one hundred to two hundred beds with a limited ambulance service, the pathologic intern could well be on first call for ambulance duty. He should be required to perform all autopsies under the pathologist's supervision, and to write up the autopsy reports, which are not very numerous in such a hospital.

Technician in Laboratory Service

With the extension in the field of laboratory diagnosis, hospitals of a hundred or more beds, if properly equipped and maintained, require the services of more than one experienced person in the laboratory. Most of such institutions are not in a position to employ more than one thoroughly qualified clinical pathologist. The employment of an intern for that purpose is not a satisfactory solution for results, even though it seems financially the easiest way to solve the problem.

However, technicians can be secured who are trained and proficient in making many of the routine examinations, such as the general urinalysis, blood counts, and slides for tubercle bacilli. By employing a technician the hospital will obtain reliable service and will permit the clinical pathologist to devote his time to the serologic and other more difficult examinations. In a first class laboratory service, one half of the clinical pathologist's day will be spent assisting and advising the attending physicians and interns on the interpretations and significance of the results of the laboratory examinations.

A reliable technician, although an addition to the payroll, will greatly increase the efficiency of the hospital. He or she can make more accurate tests and can make them more rapidly than interns. He or she will likewise readily detect abnormal factors which most interns would fail to note. Employing a technician will also enable the hospital to give practical laboratory training to the undergraduate nurses, thereby not only increasing the supply of technicians for the hospitals, but also better qualifying graduates as office nurses.

BUFFALO FREE DIAGNOSTIC CLINIC

The recent establishment of a Free Diagnostic Clinic in Buffalo, N. Y., is a very significant move in public health work. The clinic is for the use of physicians of the city of Buffalo and the county of Erie, and any child or adult resident in the city is eligible to its service. The consulting staff of the clinic is made up of chiefs of divisions of the attending staff of the Buffalo City Hospital and the various health centers. These men also hold professorships in the medical department of the University of Buffalo. Through the employment of this type of staff, not only are citizens of moderate and poor circumstances given the benefit of the finest professional advice, but also the general practitioner and the teaching staff of the University Medical Department are rendered valuable aid. The staff includes specialists in urology, oto-laryngology, obstetrics, gynecology, psychiatry, general surgery, proctology, roentgenology, orthopedics, neurology, general medicine, special neurology, pediatrics, dentistry, ophthalmology, dermatology, laboratory, and tuberculosis.

Applicants are asked to call for a preliminary examination, when proper histories are executed and necessary laboratory specimens taken. They are then referred to members of the consulting staff.

A report of the findings in each case, signed by the examiner, is mailed to the physician with whom the patient originated. This clinic is for diagnosis only. No treatments are given. Neither are patients examined, except upon the written recommendation of a regularly licensed doctor of medicine. The clinic is designed primarily for the use of physicians' pay patients who cannot afford the customary consultation fee. No routine investigation of the financial standing of any applicant is attempted.

Physicians may refer patients to the clinic for special laboratory work only, viz.: gastric contents, feces, blood counts, physiological tests, etc., including x-ray. A small charge is made for the latter to cover cost of plates.

All laboratory work is done by the staff of the Buffalo City Hospital if a complete study of the case is made.

Know, then, whatever cheerful and serene
Supports the mind supports the body too.
Hence the most vital movement mortals feel
Is hope: the balm and life-blood of the soul.

—Dr. John Armstrong.



Treating Vienna's Tubercular Children

Figure 1. Nurses feeding tubercular children in Prof. Pirquit's Hospital in Vienna. Thousands of Austrian children are afflicted with tuberculosis because of lack of proper nourishment.

Figure 2. Prof. Clemons Pirquit, chief advisor of the Entente Food Commission in Vienna and head of a Vienna hospital for tubercular children, is here seen treating a child with his new serum.

Figure 3. A view of the outdoor ward in Prof. Pirquit's hospital in Vienna. Prof. Pirquit was for years associated with the Johns Hopkins Hospital in Baltimore.

Figure 4. The little patients in Prof. Pirquit's Vienna hospital are supplied with food by the American Relief Commission in Vienna.



THE MEDICAL HOSPITAL, AND NURSING PROBLEM IN RURAL WESTERN CANADA

Need for Help to Prairie Mothers—Work of the Victor Order of Nurses—Legislation in Aid of Rural Hospitals and Medical Service.

The women who face approaching motherhood on the remote prairies of Western Canada need the courage of soldiers going to the front. The nearest medical and nursing help and hospital accommodation may be forty or fifty miles away; there are perhaps no telephones, few neighbors, poor roads, no motor cars, possibly oxen to travel by instead of horses.

There are districts in the prairie provinces where the population is so sparse and the financial returns for medical practice so inadequate, that it is almost impossible to procure a resident physician, says F. C. Middleton, of the Bureau of Public Health, Regina, Saskatchewan, writing in the public Health Journal of Toronto. The government of Saskatchewan has therefore passed legislation empowering the council of a rural municipality (an area 18 miles square), after submitting a by-law to the electors, to engage a legally qualified medical practitioner for the municipality at a salary not exceeding \$5,000 a year. In certain cases in which there would be difficulty in securing physician for confinement cases, the government provides for a maternity grant of \$25.

The Victorian Order of Nurses has in part met the need of nurses, especially in maternity cases, in the rural districts. The order sends two nurses together into a district and provides them with a home which they use as headquarters from which they do their visiting or nursing. In some cases the organization builds a small hospital which may be turned over to the local authorities as soon as the district is able to manage it. Legislation in aid of rural nursing has been passed in Saskatchewan. The supply of nurses for both urban and rural work is said to be very insufficient, however. The recent influenza epidemic emphasized also the lack of information and training on nursing subjects among the majority of women. As opportunities for nursing instruction are wanting in the rural districts, short courses in practical home nursing, to be given by nurses especially trained for teaching, have been arranged for smaller rural centers. A specially trained trachoma nurse, speaking several foreign languages, has been provided under the supervision of the commissioner of public health for sections settled by foreigners affected with this disease. Tuberculosis is a reportable disease, and any case of tuberculosis reported through the district medical health officer to the provincial bureau of public health is visited by the tuberculosis nurse from that bureau. Six school nurses are this year inspecting the children for bad teeth, unhealthy tonsils, adenoids, defective sight, etc., and the schools for ventilation, adjustment of seats and desks, lighting, etc.

Municipal hospital legislation in Saskatchewan (it will be remembered that a "municipality" is a territorial division which may be either rural or urban) permits two or more rural municipalities to cooperate with any number of urban municipalities to establish a union hospital. Figures furnished by Dr. M. M. Seymour, commissioner of public health of the province of Saskatchewan, illustrate the cheapness with which the plan works out. A fifteen-bed hospital for a district consisting of one urban and two rural municipalities is estimated to cost \$30,000. The money is raised by the issuance of twenty-year debentures at 7 per cent interest, repayable in equal annual payments of \$2,600 each by the amortization plan. Of this the urban municipality undertakes 10 per cent, or an

annual repayment of \$260, and the two rural municipalities together 90 per cent, or an annual repayment of \$2,340. The latter sum is raised by a taxation of \$1.13 per quarter section on the 2063 quarter sections in the two rural municipalities.

The urban member of the hospital partnership is advised to arrange for each patient to pay his own hospital account, but it is recommended that the hospital fees of all patients from the rural hospitals be paid for out of the general taxes on that municipality. About seventy patients a year may be expected from each municipality, each making an average stay of fourteen days, or a total of 980 hospital days in the year. For the two rural municipalities this amounts to 1,960 days, at an estimated cost of \$2.50 per day, amounting to \$4,900 in all. A government grant of 50 cents per patient per day amounts to \$980, leaving \$3,920 to be paid for by the municipalities. The tax on the 2,063 quarter sections to pay this will come to \$1.90 a quarter section, which, with the \$1.13 previously mentioned for building and equipment, amounts to \$3.03 annually for building, equipment, and maintenance to provide hospital care for all the residents of the two municipalities. Nine hospitals organized on this plan are working and giving the best of satisfaction in Saskatchewan, according to information received from Dr. Seymour, the commissioner of health.

These fifteen-bed hospitals are of course too small to support training schools with the standard three-year course. Dr. Seymour has accordingly worked out the following plan for the nursing service:

Girls with a satisfactory amount of schooling are admitted for training. For one year they are given a course in practical and theoretical nursing, doing meanwhile the work usually done in hospitals by pupil nurses, and receiving \$25 a month, board, lodging, and washing. At the end of twelve months they are given a three-month course in the provincial sanatorium, including intensive work in urinalysis, bacteriology, and diagnostic methods. At the end of the fifteen-month period, after passing a satisfactory examination and producing evidence of good work during the period of training they are given certificates as "nurse aids," by the Saskatchewan Bureau of Public Health.

The province of Alberta has a municipal hospital system parallel in most respects with that of Saskatchewan, but Alberta has as yet not completed the erection of any hospitals: The Alberta government grants aid to the extent of 25 cents per patient per day, as against 50 cents granted by Saskatchewan. Alberta is also preparing to extend financial cooperation to the Victorian Order of Nurses, and also to subsidize physicians in the outlying districts. Twelve welfare stations in charge of registered nurses are to be established in the more populous centers outside of cities in Alberta.

Manitoba has adopted a system of rural public health nursing under the direction of the provincial board of health.

PHYSICAL COURSES RESTORE TO DUTY

The office of the Surgeon General announces that soldiers in development battalions were taken with slight physical handicaps and put through physical development courses and assigned to limited service. About 224,717 men were thus handled; 18 per cent of whom were restored to full duty; 20 per cent to limited overseas duty; 19 per cent to limited domestic duty; or a total of 57 per cent assigned to some essential duty, thus saving the manpower of the nation.

NURSING AND THE HOSPITAL

Conducted by CAROLYN E. GRAY, R.N.,
Secretary, New York State Board of Nurse Examiners,
132 E. 45th Street, New York City

SYMPOSIUM ON STUDENT GOVERNMENT

DISCIPLINE IN SCHOOLS OF NURSING*

HARRIET M. GILLETTE, R.N., Superintendent of Nurses, Hamot Hospital, Erie, Penna.

If we were to make an investigation of the forms of discipline which have prevailed in the schools of nursing in this country during the past twenty years, we should undoubtedly find the vast majority have been governed by a more or less rigid military type, so called because of its autocratic and relentless rule.

Now that Militarism and its effect on character have so shocked the world, it would seem that the schools,—the educational centers of a great democracy, would hasten to rid themselves of anything that bears the least resemblance to a form of government which so distorts the vision and judgment of its citizens.

It is hard to understand why a military system of discipline was considered either a necessary or suitable method of governing young women about to enter a profession whose chief cornerstone is humanitarianism. Its object probably was to teach the pupils submission—to take orders and carry them out without question or comment. It was instituted at a time when admission requirements as to education and intelligence were lower than now and when the field for trained nurses was more limited. It undoubtedly accomplished its purposes, but it killed initiative and repressed, rather than brought out, those individual characteristics which are the means of self expression.

Any form of government once instituted is hard to change. A revolution is often the only way of accomplishing it. But the attempt which has been made during the past two or three years to interest schools of nursing in "Student Government," is an indication that many are awake to the fact that we must lay aside this military form of government, which is no longer suited to our needs, and adopt some form which will develop the powers of reasoning and judgment in our pupils. What that form shall be is one of the questions uppermost in the minds of those interested in the progress of nursing education. Shall it be a government by the student body, or shall it be a form less well organized where the students really govern themselves, but do so aided by the instructors?

When the Army School of Nursing was started we were encouraged to institute "Student Government," but the pupils in our unit were not very enthusiastic about it, although they did appoint a council. However, few meetings were held, and we did not press them to continue a system which did not seem to be accomplishing the re-

sults which we expected of it. We gradually dropped into a type, which for lack of a better term, I will call the cooperative. It is a very simple and rational form of government, and is really a transition stage between the less rigid military form and the "Student Government." It is very likely now coming into being in many schools, and I am going to note here some of the factors upon which its success is dependent.

Cooperative Type of Government

For convenience I will discuss this type of government under three headings:

1. Rules and Regulations.
2. Student body.
3. Instructors—and by instructors I mean all those who are in any way responsible for the work or conduct of the pupils.

Rules and Regulations

Make as few rules as possible and these after careful deliberation. Form them with care so there may be no ambiguity. Talk them over with each class soon after its arrival, giving the reason for imposing each. Much may be accomplished toward making the pupils realize their responsibility regarding these regulations by stressing them and the principles on which they are based in the Household Economics, Ethics and History of Nursing classes.

The Student Body

The part the student must play is of course the all important one. It is to keep the rules and to so direct her conduct that there shall be no adverse criticism of the school. This involves not only obedience to written law, but the exercise of judgment. The easiest way to assure the accomplishment of these aims is to expect it. The word *expect* should be written with capital letters, for it is the keynote of success in this cooperative government. Have faith in the students—expect them to do the right thing, and they will do it in the majority of cases. We found that at least 98.5 per cent of our pupils wanted to do the right thing. Some were weak and needed much encouragement; some had poor judgment; but these showed improvement in the few months they were with us.

The ones who do not want to do the right thing should be eliminated from the school. Those who are persistently weak willed or lacking in judgment should be dealt with in a manner fitting the offense. It is often most effective to let the pupil decide what the penalty of her indiscretion shall be. The Ethics course points out that so-called pun-

*Written while Instructor in Army School of Nursing.

ishment is not to hurt one's feelings or "to get even," but is a means of making an impression so strong that the offender will decide not to offend again.

The Instructors

If this form of government is to be cooperative, we must have a working together of pupils and instructors. It is with the instructors that the greatest responsibility rests, for the attitude of the pupils toward the school and its government is determined by the attitude of the instructors toward them. I have already mentioned that the instructors must trust the pupils. They should also be possessed of good temper. Prof. Lawrence P. Jacks of Oxford University has said in a recent article, "Good temper is the greatest ethical need of the present time." Cooperative government can hardly be a complete success unless the instructors possess their full share of it.

Another requisite without which those in charge of the pupil nurses will be greatly handicapped is a sense of fairness—the ability to see the other side of the question, and then to weigh carefully and accurately. It is the feeling that one has not had a fair deal that rankles and furnishes the seed for rebellion.

The instructors should also manifest an individual interest in the pupils. It is not the aim of this form of government to fashion them all after one pattern, but to study the needs and peculiarities of each one. Criticism should not be given unless merited; neither should it be withheld when deserved. Care should be taken not to humiliate the offender in the presence of others, and to see that the pupil knows how to correct the error. These then are the essential factors in a cooperative form of government:

1. Accept only those pupils who want to do the right thing.
2. Make the fewest regulations possible and explain why these have been made.
3. Expect: (a) the rules to be kept. (b) the conduct of the pupils to be above criticism.
4. Treat students fairly, having respect for their intelligence and good sense.
5. Never let a pupil leave your presence without making her feel that you have her interest at heart.

If we substitute this training through reason for that older type of training through suffering, there will be few so-called cases of discipline in our schools. The repressed, antagonistic nurse, who likes the work, but would not advise her friends to take it up because of the unpleasant experiences of the training, will be replaced by an appreciative, enthusiastic type who will be anxious to do credit to her school and her profession, and who will urge her friends to come in and be one of us. May it not be one of the factors in bringing into our schools the right type of young women?

STUDENT GOVERNMENT IN TRAINING SCHOOLS FOR NURSES

EFFIE J. TAYLOR, R.N., Assistant Director, Johns Hopkins Training School.

One of the most comprehensive words in our vocabulary is the word government. It is associated with all history. Out of it or through it all national or international difficulties have arisen and have been solved. Because of it organizations have been formed and protection assured. It is that which safeguards civilization.

Since history has been recorded, in every community some form of government or control has been instituted. Throughout the ages in various countries govern-

ments known as autocratic, despotic, plutocratic, tyrannic, military, democratic, socialistic, and other forms have held sway, according to the ideas of the various groups of people concerning life and its control. In every group there are people who lead and people who follow. For convenience of thought, all forms of government may be divided roughly into two great divisions: first, the autocratic form; second, the democratic form; neither one perhaps, embodying all the principles of justice, but the latter the more nearly measuring up to perfection.

In our training schools for nurses the form of government which has traditionally been accepted is the military form, more closely allied to autocratic than democratic rule. The student government plan would naturally fall under the second division. To discuss the history of nursing and its government is not the issue in this article. Suffice it to say that when the first training school was established in connection with a military organization, military government was the most desirable and efficient form of control and was a safeguard and defense. It was also a factor in establishing the rights and privileges which the British military nurses enjoy today. In our civil hospitals, however, we are not dealing with a military organization. In our training schools for nurses we are considering a body of students who have entered these schools of nursing for the purpose of obtaining an education to fit them to care proficiently for the sick, to acquire knowledge in the prevention of disease and in the preservation of health in the community. These students differ from students in the majority of other educational institutions in that they are mature women, the average age at entrance being perhaps not less than 20 or 21 years.

A problem for which a solution does not seem to be readily forthcoming is, why in order to adequately train one to care for the sick it was ever thought essential to institute a system that would so thoroughly crush out one's individuality and initiative. To supplant all other qualities by submission seems to be the object desired, and to successfully bring one to the point of accepting all orders without question, as decreed by the one in authority, is the height of attainment under the autocratic and military system. One is forced to bow to the right of authority.

We all know more or less of this system and its result. We have all seen its inconsistencies. We have all heard the criticism of the students who have rebelled against so arbitrary a rule, and we have seen and do see the machine-like products it turns out.

Advantages of Military Government

On the other hand, there is something to be said for a system which trains in exactness, promptness, attention to detail, and a forgetfulness of self. A training school for nurses is after all an absolutely different kind of school than that connected with any other institution of learning. From the very beginning of her life in the hospital ward the student nurse has to deal with human implements instead of, as in other schools, merely books and mechanical things, and her mistakes may react seriously. She cannot be allowed, therefore, to use her own judgment in her ignorance. While she is acquiring knowledge and skill, her patients must be safeguarded against possible mistakes. It is because of this fact that a rigid discipline is considered essential, and that an abundance of routine rules and regulations are made from which she cannot be allowed to deviate. The system, however, has been autocratically carried over into the home life of the student without a just understanding of its value. Perhaps, then, it is not the principles back of our govern-

ment which are at fault, but a wrong adjustment and administration of these principles.

"To train" is to enable one by frequent practice and instruction to attain skill. "To discipline" may be defined in a similar way, but ordinarily, discipline involves something more. It may include both a subjective and objective relationship. Under military rule the objective relationship is outstanding. One will submit to discipline if one believes in the object to be attained and wills to subscribe to it, but on the contrary, one rebels if forced to submit to what one does not understand and acquiesces in. In the former case discipline tends to development and growth, while in the latter it tends to fostering an antagonism to authority. It would seem, therefore, that the method of government which would bring about the desired result would be one in which the controlling and controlled groups were in close cooperation and harmony with each other. The result to be attained would be understood by both groups and freedom of expression would be encouraged.

The question under consideration is what is the best government or rule for the nurses' home. Some form of student government is suggested.

Out of a large number of letters of inquiry sent to many of our representative training schools, it was found that only a small number of schools have an organized student government. A few have a limited form, but in the majority of schools the faculty decides all questions concerning rules and regulations. In explanation of the latter fact, it is stated that the main reason for not establishing student government is that the student nurses do not want the trouble of it. Obviously, there is a reason for this, as the general complaint on the part of the student nurses is against arbitrary rule, and as in schools and colleges, student government is now the accepted form. There are probably two main reasons why student nurses do not desire the trouble of governing themselves.

First—Long hours of practical ward duty. In the majority of our training schools the hours for duty average nine and ten daily, with class and study hours added to these. The student nurse is therefore too tired to give time and thought to something not really demanded of her and is willing to accept the line of least resistance.

Second—The students fear responsibility and criticism. Due to the traditional method of government, they are unfamiliar with the entire problem.

In order that student nurses may desire to take the trouble incident to student government, the hours of practical fatiguing duty should be decreased. Obviously, this is also true for other reasons not discussed here. That the second excuse should be given is a reflection on the relationship which now exists between the faculty and the student body in our schools. The initiative should therefore be taken by the faculty.

To begin with at least a form of cooperative government should be established. A very close connection would then be formed between the two groups. Gradually,

when a new spirit has developed, more and more responsibility could be given to the students, which, without doubt, they would desire. Such a board of control, or council, made up of the faculty of the training school and representatives of the student group, could study all questions pertaining to the life of the student nurse. Many things could be explained which are now not understood by the students as to why certain things are thought desirable and other things undesirable. The student, on the other hand, should be encouraged to present the point of view of the group. Many experiments would doubtless result, and personal opinion would of necessity become more flexible. The student representative should be carefully chosen and should be well informed as to the opinions they are expressing. Absolute free-

THE ART AND ETHICS OF NURSING*

IF my every wish would come true for you young women who are soon to leave us, I would wish good health. First, because good health is a foundation for faithful service and happiness. I would wish each one of you to be patient, tender, and sympathetic, because these qualities win abiding friendships. I would wish you a lively imagination, because without imagination you cannot put yourselves in the place of the sick man, woman, or child whose fretfulness might otherwise cause you to be impatient or fretful.

Many times I have emphasized the art of nursing as distinguished from the science of nursing. Science lays at your feet, facts, the knowledge of which is essential for your highest success; but science without sympathy will not make you friends or bring you success. I do not for a moment fear that you will fail in your profession for lack of scientific knowledge; although failure to grasp scientific facts might cause you to fail to pass a state examination. This would cause you humiliation and temporary distress, but a state examination will not test the qualities of mind and heart on which your real success will depend.

The art of nursing includes the art of making yourselves loved by those you serve; more than this, it includes the art of making yourself liked by the cook and maid who washes the dishes in the homes where you are called. The nurse's opportunity for making friends rivals that of the physician and, perhaps, even that of the clergyman. Your profession will bring you close to the deep mysteries of birth and death. The secrets and even the skeletons in the home closets may be open to your knowledge and sight. I trust it may never be said of one of you, as I once heard it said of a nurse, well trained in the science of nursing, "She knows symptoms and drugs and sick room sanitation, but she doesn't know the ethics of her profession, and—she talks too much."

I am not afraid that members of this class will talk too much, I mean talk in the sense of gossip. We agree that, "An ideal is the most practical thing in the world because it is a force behind action which must be reckoned with."

Our faith is that you will do credit to the best ideals of the profession of nursing which places the interests of a sick man, woman, or child first,—even before its own interests.

*Address to Graduating Class, City Hospital, Worcester, Mass., Jan. 6, 1920, by Charles A. Drew, M.D., Superintendent.

dom of thought without criticism should be encouraged. A new point of view would no doubt result on each side.

An objection made by many who do not approve of establishing student government in training schools is that the student nurses cannot understand the difference between schools of nursing and other schools, and that in the former the responsibilities are greater. The form of government described would soon place the student nurse in a position to understand. Instead of blindly accepting what she is told, she would believe in the traditions and principles of her profession, and would gladly do her part in maintaining them. It would not be long before these principles and ethical standards would be zealously guarded by the students and a violation of them would be

considered more of an offense by the students than by the faculty.

To what extent this form of government could be developed and carried on would depend on the individual school and the type of persons composing the faculty and the student body. However, there is no doubt that any government which has as its cardinal principles cooperation and justice is a better government than one which only arbitrarily makes rules, and demands the acceptance of them.

STUDENT SELF-GOVERNMENT

SARA E. PARSONS, R.N., Superintendent of Training School, Massachusetts General Hospital.

Self-government and faculty-government are synonymous with democracy and autocracy. The latter represents a primitive form of civilization, and is necessary when individuals are not highly developed in self-control or altruistic enough to place their neighbors' interests on a par with their own. Also, when some great concerted action is necessary for aggression or defense, as in the world war, the form of autocratic government conferred voluntarily by the people is necessary because there is not time for debate or compromise.

In schools for nurses, faculty government at best means an honor system, which doubtless secures loyalty to faculty laws on the part of all students who are susceptible to ethical appeal. It, however, leaves free those who are not sensitive to honor standards. At worst, faculty government degenerates to an espionage system, which makes it seem to the students fair play to circumvent the faculty, and which places the loyal student who conscientiously observes the rules in the false position of being a "poor sport"! If said student reports in the interest of school honor, she is then in the odious position of talebearer. Autocratic government is in many ways easier for both governors and governed. It is easier to act than to reason. It is easier to deal with people *en masse* than as individuals. It is easier to obey others than to assume personal responsibility for one's voluntary acts. The worst result of faculty government is the injustice unconsciously inflicted. We all know the unfortunate student who always gets caught if she does the least thing out of the way, and the so-called lucky persons who can successfully elude faculty eyes and ears all through her course. We also know that the faculty are always last to know what is matter for common gossip in a school. When some student is suspected or expelled from a school, we know how many times there is a storm of indignation on the part of her classmates, or, on the other hand, criticism because such action has not been taken earlier.

While I cannot say that student self-government in the Massachusetts General Hospital school for nurses is perfect, I do feel that it has done several things of value—for instance:

1. It has developed individual responsibility for community interests;
2. It has created a sense of honor toward a community ideal, contrasted with the selfish and popular idea of "standing by" one another, right or wrong, and thus avoiding personal unpopularity;
3. It has brought wrong-doing to the surface before it was too late;
4. It has given to the student body a comprehensive idea of student psychology, and a practical experience in government;
5. It has produced a better understanding between the faculty and students, and consolidated their interests.

The following incidents may illustrate my point:

A class of probationers, having passed their examinations, were about to be accepted into the school and, knowing we were about to organize self-government, elected a member of their class to tell me that one of their number was unworthy, according to their opinion, of being accepted. The reasons they gave were that she "cribbed" in examinations; took things from other probationers' rooms without permission, and that, in general, her social conduct marked her as unreliable in essentials.

In another instance, having heard that a first-year student was behaving indiscreetly, I conferred with the student council (composed of officers of Student Self-Government and two members of each class), asking them to investigate and make recommendations as to discipline. The result disclosed that members of the offender's own class and some of her co-workers had remonstrated with her and warned her concerning her unwise conduct. The council felt that she had had ample opportunity for reform, and that she was not essentially earnest about her work or sincere in her determination to conform to proper standards of social conduct. As the young woman had already been advised and warned by myself concerning her status in the school, she was asked to resign, and we were probably saved a more serious affair later on.

I have been asked how to stimulate interest in self-government among the students. I think I should not only state its advantages to the whole school, but should require them to appoint a representative council to confer with me concerning matters that pertained to the welfare of the student body. If the majority continued indifferent, I should begin student-government with the probationers, who are good soil in which to plant new ideas.

A superintendent may learn much from her students if she will confer with them seriously. Always some of them are women of experience and originality, and the faculty will do well to avail itself of the advice and support of the student body.

"PEP"

By GRACE G. BOSTWICK.

Vigor, vitality, vim, and punch—

That's pep!

The courage to act on a sudden hunch—

That's pep!

The nerve to tackle the hardest thing,
With feet that climb and hands that cling,

And a heart that never forgets to sing—

That's pep!

Sand and grit is a concrete base—

That's pep!

Friendly smile on an honest face—

That's pep!

The spirit that helps when another's down,
That knows how to scatter the blackest frown,
That loves its neighbor and loves its town—

That's pep!

To say "I will"—for you know you can—

That's pep!

To look for the best in every man—

That's pep!

To meet each thundering knockout blow,
And come back with a laugh, because you know
You'll get the best of the whole darn show—

That's pep!

American Magazine.

DIETETICS AND INSTITUTIONAL FOOD SERVICE

Conducted by LULU GRAVES,
Home Economics Bldg., Cornell University, Ithaca, N. Y.

TRAINING OF STUDENT DIETITIANS*

Dietitians are generally classified according to the branch of dietetics for which they are particularly qualified, as: Teaching, administration, social welfare, and dietotherapy. Each of these requires a background of thorough training in home economics to which must be added graduate training along lines in which one wishes to specialize.

When criticism is made regarding the dietitian it is too often true that the distinction between these types has not been given, and a woman with teaching ability has been asked to assume a position requiring administrative ability, or vice versa. Again, the hospital may not be allowing the dietitian to assume the responsibility for which she is so well trained. However, I feel this last condition will very soon be remedied. In an article in *THE MODERN HOSPITAL* about two years ago, Dr. Joslin stated that it was very noticeable that the more modern the hospital and the more up-to-date the management of the same, the greater the power of the dietitian; and it is a fact that in modern, well-organized hospitals, operating under a business-like management, an administrative dietitian has entire charge of the department of dietetics.

A great deal of the blame for the less desirable conditions is directly traceable to the training given to dietitians in the hospitals of the country. Some of the hospitals accept young women for training merely as a means of having skilled work done cheaply, with no real training being given. While much improvement has been shown in the last few years, we still have a long way to go and it behooves every dietitian to realize her teaching responsibility.

Individual Training in Dietetics

We cannot expect to have a standard training for these young women, as hospitals differ as much as dietitians differ. We need to train dietitians for these various hospitals. However, we can arrange matters so that the students graduating from the same type of hospitals will have approximately the same type of training. Unless you can give the students the necessary attention, do not attempt giving training. The training must be individual. If your hospital can only offer a certain form of training then have close cooperation with your schools of home economics and let the heads of these departments select young women best suited to the type of position for which you train. The training should be systematized in such a way that no time will be spent to disadvantage, and it should follow in logical order. The first month can best

be spent in the office of the department, allowing the student to become familiar with the various branches, to know who the hospital officials are, and to know something of hospital etiquette.

They should have library privileges offered in the city and should have access to all the hospital offers in the way of books and journals devoted to subjects closely related to their work. They should have time to take advantage of civic opportunities. There should be a definite time each week for round table talks, either on the subject matter in the books and journals, or on the problems of the day. Do not expect them to relieve you of the necessity of having paid supervisors of the various branches of your department. You would, in this way, have twelve heads of each branch each year, and where would your system be? Do not require them to do clerical work or any detail work which can be done by someone else. It is very important that they be familiar with all details of office routine, but they gain nothing by doing this work day after day.

Adequate living quarters should be provided and attention paid to means of recreation for students. I think one reason for many dietitians, both graduate and student, remaining in hospital work for so short a time is because of lack of proper attention to these items. Given this attention, I am sure that the student dietitians will be the most loyal alumni your hospital can have, and the course will be a source of satisfaction to all.

COURSES OF INSTRUCTION FOR DIETITIANS

By KATHERINE FISHER, Teachers' College, New York City.

The war has taught the incomparable importance of education. It has also revealed to us the stern necessity for specific training. A recent writer has reminded us that "we used to think proudly of our educational system as a ladder from the kindergarten to the university. Our pride was humbled, however, when we realized that almost everybody fell off on the way up, that they fell hard, and found their feet with difficulty. The builders of the ladder did not think of vocation or livelihood. And you cannot in these days (the same writer asserts) get efficiency in anything without training." We might well add that in planning technical training courses today the special field of work must be constantly kept in mind. At the same time we cannot forget the inestimable value of providing the good broad basis that is expressed in trained intelligence, and without which practical knowledge will be of comparatively little value. All information is useful only as it is well proportioned, and a good academic education, either preparatory to such courses or woven into them, is really essential in securing the highest standards of work. It is also obvious that we must preserve a balance between the practical and the theoretical. One ranks no higher

*A digest of a talk given by MISS E. M. GERAGHTY, 1332 Forest Court, Ann Arbor, Mich., at the American Dietetic Association meeting, held at Hotel Gibson, Cincinnati, September 8 to 12, 1919.

than the other. Let us carefully consider these things in planning courses for our future dietitians.

Education and Experience Determine Training

The problem of vocational guidance is receiving much attention at present. Why not consider this in training our dietitians? You will all admit that the work of the dietitian carries with it heavy responsibilities, and that it usually involves an important managerial position. Native ability and the general fitness of students for such work should surely be major considerations. Some students may prove to be good technical workers but may never develop into competent administrators. Perhaps some enthusiastic member of this association will work out a series of tests along the lines of those used so successfully in the army to adequately measure the ability of the would-be dietitian. Some colleges have arranged a probationary period, but there is a danger of its developing into a mere form. In any event, the previous education and particular experience of the student will influence her training and future work. Practical experience in home management will prove a distinct asset, as a student who has had to grapple with real situations has a better basis for interpreting at least some of the work of a teacher, provided she has not taught too long, brings her teacher's attitude as a valuable experience and a good social background is always a decided advantage. The age of the student should undoubtedly be considered. The very young student is handicapped, not as seriously during her training as during internship, or later as an active dietitian. As a general rule, she is bound to lack that much needed maturity of judgment and poise, and the ability to supervise her employees, as well as the power to face emergencies without being nervously overtaxed. She may succeed very well in an assistant's position, but too often she is persuaded to accept a responsible position she cannot successfully fill. I always welcome to our ranks women who have had their initial experience in some other field, where demands upon their administrative ability have not been heavy, but where they have had a chance to develop more mature judgment.

Length of Course in Dietetics

All these things considered, what shall be the length of an adequate course for those who have had no previous training in general home economics work? I feel sure we all agree that a one year course gives a very meagre and narrow preparation. It cannot give time for developing facility in technique, or for a study of the related sciences so essential to a broad understanding of the work in hand. Again, the ambitious student may overtax her endurance in her desire to do justice to the work. Do you agree with me that two years is the minimum for a thoughtfully planned and carefully administered course for a group of capable students? As yet we cannot hope that all dietitians will be able to take advantage of a longer one.

If we follow the example of the enthusiast in vocational education and indulge in "job analysis," we may be able to decide more easily just what subject matter should be introduced into our training courses. What knowledge does the work demand? What are the responsibilities? To what extent should dietitians depend upon outside expert advice? Should we aim to merely give an appreciation of certain phases of the work, and should she acquire skill in carrying out the processes in other phases? These questions are even more pressing when the training of the administrative dietitian is being considered, as she is really specializing in administration and will not often

be called upon to actually carry out many of the processes involved.

Home Problems, Basis for Study

A study of the problems of the individual home should undoubtedly form an introduction to the study of the activities of the institutional household, as far as the more technical aspects of the training are concerned. The historical background, too often lost sight of, should be presented and should also include a survey of the development of the institutional homes. I believe that this is conducive to the development of a more sound philosophy of work. As far as possible, the student should be prepared to appreciate the differences between the home and the larger household. On the other hand, the activities of these larger homes really lie in the old fields of women's endeavor and these new occupations for women "are only the old ones writ large." They represent the larger home, and can splendidly enlarge the individual home. Our students should understand the big essential things for which these institutions have been created, as they lie at the very root of human needs.

From the standpoint of economics the dietitian is a consumer on a large scale, and should therefore, be a keen and expert judge of all materials and supplies she uses. Markets and market conditions will demand her constant attention. I see no reason why, in many instances, she should not be her own buyer. Up to the present time we are aware that this has not always been one of her responsibilities or interests. Training courses should give attention to this.

Courses in Related Sciences

Undoubtedly, one of the most important considerations is the planning of courses in the related sciences. In planning these we must remember that we are not preparing teachers of chemistry, biology, physics or nutrition, and we should therefore not let our desire for an extensive training in science discourage the student who has splendid executive ability and other excellent qualifications, but who may not have a particularly scientific mind. On the other hand, it is expedient that we avoid a superficial training in science. We cannot have applied science unless we have science to apply, and we must not forget that our dietitians are usually called upon to teach dietetics. Our courses should therefore provide a very thorough training in nutrition. Above all, our instructors in these related sciences should make the work more vital by constantly making clear in an interesting way the specific application of science to every phase of the dietitian's work, whether it be a problem in sanitation, in food, or in equipment. Failure to do this is often the reason why some of our students sigh so sadly over their laboratory experiments, and why some are left with an attitude similar to that of one student who exclaimed to me in the early days of her course: "Is an ordinary everyday thing like baking soda a chemical!" Evidently that student had not a scientific mind, but she proved to be one of the best military dietitians serving in the hospitals of the allies, and faced emergencies sturdily, with splendid poise and an amazing resourcefulness. The end of any training is not mere skill or the acquisition of knowledge, but the ability to use this skill and knowledge in coping with new situations.

Studies in Sociology and Economics

Economics and sociology should find a place in our courses as the work has, of course, most important economic and sociological aspects. This would include a study

of modern labor problems as they may be related to the institutional household, a particularly important question, considering present day conditions. Employment management has become a large factor in industrial administration and it cannot be a matter of indifference to the future dietitian.

As the planning and supervision of the work of others is one of the major duties of our dietitians, a study of the principles of modern forms of organization and administration as they apply to her future management problems, should find a place in the latter part of the course. Again, she will have more or less responsibility in regard to accounting and business methods, and should therefore, be acquainted with at least the general principles of this phase of her work.

But Rome was not built in a day, and neither was any training course ever intended to produce competent dietitians, veritable encyclopedias of knowledge, with nothing further to learn! There are many, many things we can only learn through experience, guided in the beginning by sympathetic and intelligent supervision. This really brings us to the question of practice fields for the pupil dietitian, or internship or apprenticeship; but this is being discussed later. Just let me say, however, that I hope we will decide in the near future that any course, whether it be two, or four years in length, should not be taken in consecutive years or semesters. Could our students not go out into the field for one or more periods during their course, as well as at the end of it, and there under wise supervision gain practical experience? Many colleges have these fields right in their own dormitories and dining rooms. I am decidedly opposed, however, to such field work being attempted while the student is carrying the average school or college program. The majority of colleges offering courses are permitting students to undertake field work in addition to a full program of class room and laboratory work, but I trust that this arrangement will give place to one where the student has almost her entire time for field work during a given period of at least from three to four months. Such a plan would surely put new life into our training courses, and incidentally challenge our instructors to likewise seek experience in the field from time to time. I would be glad to see this field work given definite college credit. Our courses would be modified by such a system of internship. Many things which we now struggle to teach in the class room could be taken care of in the practice field. To give one illustration: there are many reasons why large quantity cookery cannot be well taught in the college laboratory.

This association had undoubtedly a definite responsibility concerning the development of adequate training courses. Every active dietitian should cooperate as closely as possible with colleges offering such courses, studying particularly the question of intelligent supervision of field work. Instructors should acquaint themselves with conditions in the various types of institutions, particularly those instructors whose subjects are more directly related to the work of the dietitian. I have not attempted to discuss any difference that might exist between the training of the administrative and the laboratory dietitian, but that is hardly possible within the limits of a short paper.

THE TEACHING OF MEDICAL DIETETICS

By LOUIS BAUMAN, M.D., Presbyterian Hospital, Columbia University, New York City.

It was largely because we were impressed with the scarcity of information and the future possibilities of the subject that instruction in medical dietetics was under-

taken several years ago at the State University of Iowa. With the advice of Professor Ruth A. Wardall and the active cooperation of Miss Margaret Sawyer, a course was planned which was divided into three periods. The present state of our knowledge of this important matter is well discussed in one of our recent text books.

I assume that there are many here who have never become interested in the medical aspects of this subject. Permit me then to digress a moment to emphasize some of the more important applications of dietetics to medicine. First, the subject of infant feeding. I wish Professors Daniels and Wheeler would tell us of the many problems that await the dietitian in this field. From my own short experience and interviews with specialists in this line I gather that the subject has been made unnecessarily complex by men who have entered the field without proper training in physiological chemistry and the chemistry of the foodstuffs. What seems to be required is simplified and rational feeding, both for the normal and sick child. Here the matter of antiscorbutic and growth promoting vitamins is important as well as the proteins, fats, carbohydrates, and minerals. The attention of pediatricians has centered on the problem of infant feeding, while relatively little has been done with the diets of older children. At any rate it seems that a deplorably large percentage of our school children are underfed.

In the treatment of diseases of the alimentary canal, diet plays a leading role. Here, as in all other pathological conditions, it is essential to know what functions are at fault, and to order the diet accordingly. Some information may be obtained by studying the chemical and morphological characters of the feces and test meals withdrawn from the stomach during digestion. The many contradictory statements to be found in the text books indicate that our knowledge of the treatment of diseases of the alimentary canal is far from complete. In disease of the kidney one or all of the important functions of this organ may be disturbed, viz., the removal from the blood of urea which results from the metabolism of proteins, sodium chloride, and water. In prescribing a diet we aim to decrease the amount of salt and protein to as low a level as necessary, and rely more on carbohydrates and fats to supply the necessary energy requirements.

Perhaps there is no disease in which diet is more important than diabetes, a condition characterized by the decreased ability of the body of oxidize carbohydrates. In this condition it is necessary to determine how much carbohydrate the patient can utilize and to arrange the diet accordingly. Gout is a disease associated with a retention of uric acid. Uric acid is an oxidation product of the purines which form part of the nucleic acid molecule present in every cell nucleus. It is therefore important to furnish a diet poor in cells, the so-called purin poor diet. The treatment of typhoid fever was greatly improved by the introduction of the high calorie diet by Doctors Coleman and Shaffer. They found that the fever and toxæmia greatly increased the energy requirement of these patients. The importance of this matter had previously been underestimated. By increasing the ingestion of food, starvation is avoided and recovery is more apt to occur without the extreme emaciation which we had been in the habit of seeing. I am quite sure that there would be no difficulty in finding a number of other diseases in which diet plays a leading therapeutic role.

A word or two with regard to the prospects of dietitians. There is an increasing demand for them, both in hospitals and private practice. One of the University of Iowa graduates is to be associated with a specialist in metabolic diseases, and will look after the dietetic requirements

of his patients, as well as his private laboratory. Another specialist has the dietitian visit his patients to instruct them in the preparation of their meals. At any rate, thus far the demand has exceeded the supply. I am sure that the association of dietitian and physician will be to the advantage of all parties concerned.

Acid Production and Neutralization

The chief research problem which was studied in connection with the course had to do with acid production and neutralization in the human body. The acids which are constantly being produced are sulphuric, phosphoric, hydrochloric, acetoacetic, hydroxybutyric, and lactic. The organic acids are oxidized to a large extent except in abnormal conditions where fat is being extensively or exclusively oxidized, as in diabetes; then they may accumulate in the organism and actually overwhelm the supply of reserve bases which are available for their neutralization. The mechanism for combating acidosis, as it is called, is about as follows: the acids first react with sodium bicarbonate which is present in the blood plasma, thus liberating carbon dioxide; this is brought to the lungs by the circulating blood and removed by expiration; the supply of bicarbonate is replenished by the conversion of alkaline phosphate (Na_2HPO_4) into acid phosphate (NaH_2PO_4), thus liberating one atom of sodium; the former is present in the blood and tissue cells; the excess of acid phosphate enters the plasma and is excreted by the kidneys in the urine. If this mechanism is insufficient an emergency neutralizer is at hand, namely, ammonia. Normally it is probable that all of the nitrogen excreted as urea goes through the stage of ammonia, but the liver and other tissues convert this somewhat toxic base into the relatively inert carbamide or urea. In the event of an acidosis, ammonia is diverted for use as a neutralizing agent. In addition to sodium and ammonium, other bases such as calcium and magnesium may function as neutralizing agents.

Other Neutralizing Agents

It was this phase of the subject which was studied in our research. The observations were made on two male children, aged five and eight years respectively. During the preliminary period they received similar quantities of egg albumin, egg yolk, milk, pure sucrose, pure lactose, sodium chloride and agar; during the following period the pure sugars were replaced by pure butterfat. The mineral calorie and nitrogen content of the diets were identical during both periods. During the second or high fat period there was a pronounced acidosis due to the formation of hydroxybutyric and acetoacetic acids, and a marked loss of calcium. In fact the calcium served to neutralize more acid than the ammonia, thus showing that even during a short period of acidosis a considerable loss of this important element may occur. As was pointed out, this loss was derived from bone. Another problem which was studied was the varying susceptibility of children to acid producing diets. It was found that the response was a variable factor among the different children and that certain ones were extremely susceptible. This was an experimental verification of a clinical observation. Children susceptible to acidosis often develop a severe, and occasionally a fatal condition following even the most trivial surgical procedures. Of late the intravenous injection of concentrated glucose solutions has been advocated in this condition and used with prominent success, so that the surgeons should gradually overcome their fear of this spectre.

The last investigation is still unpublished. It was undertaken to test the effect of the administration of alkali on the symptoms and acetone body production in experimental acidosis. The increased acid production was brought about as usual by feeding a relative excess of fats during two periods. During the first period alkali (sodium bicarbonate) was administered; during the second it was withheld. Our results thus far indicate that as far as the symptoms and the total quantity of acids are concerned, there is little difference; in fact it seems that alkali actually acts unfavorably, as far as these two factors are concerned. It would appear that the serious symptoms are due to the toxic effect of the acids formed, rather than to their neutralizing action.

A great amount of the actual laboratory work, and all the dietetic work that was necessary for these experiments, was carried out by the students.

THE RELATION OF THE PHYSICIAN TO THE DIETITIAN*

By DR. ELIZABETH CAMPBELL, Cincinnati.

The medical mind of today is grasping opportunities and seizing hold of all possible avenues leading to the successful treatment of disease, which, not many decades back, would have been thought unworthy of attention. Along with the frock coat and high hat of the correct and stately physician, and the carriage drawn by the finely matched team controlled by the liveried groom, has been put aside the idea that medicine is encircled with a charmed ring out of which a doctor may not step. He has emerged a human being moving among his fellows as a co-worker.

The austere aloofness which has for many years marked the attitude of physicians toward nurses, is gradually melting away as the allied professions dealing with practical details of caring for the sick, are moving on to the perfection of scientific attainment. This is rapidly winning for them a place in the medical field.

The idea that the trained nurse, or in the younger profession, the trained dietitian, should be denied the knowledge of the "reason why," and kept as a mechanical tool, has given way to the present highly trained product of schools of nursing and dietetics, with whom the modern physician delights to counsel.

Rarely do we find now, an example of the older type of physician who expected merely blind obedience—unless perchance it occurs among the white coated internes—who have still to find the blessings of humility. There is no team-work so efficient, none so beautiful as that of the physician and the nurse who fight the spectre of disease with mutual understanding and consequent increased skill.

It is a source of surprise to the unthinking how great is the difference between these professions. Many women who wish to study medicine assert that they will take the course in trained nursing first, and are amazed when told that such a course not only affords no preparation, but is a positive draw-back to medical research. The nurse or dietitian approaches the problem presented by a patient from a totally different angle from that of the physician. While this is true, a seeming paradox arises from the absolute interdependence of physician and the skilled workers in the practicalities of ward or sick room. The fundamental requirements, and later, the actual difference in the work, makes for the absolute isolation of the professions. At the same time, a most fascinating opportunity is afforded for the closest possible co-operation.

*Read before the American Dietetic Association, Cincinnati General Hospital, September 11th, 1919.

We approach the problem of the relation of the doctor to the dietitian from the four standpoints of the patient, the dietitian, the hospital and the doctor. The patient enters the door of the hospital with the feeling that here will be found the best regimen known to science for the cure of disease. The first disillusionment comes when the food is served. A wit among preachers once said that the Devil entered the church through the choir. There is no doubt that his Satanic Majesty enters the hospital through the kitchen.

Dietetics has reached a high plane of scientific attainment. The trained dietitian is ready. She is armed with the knowledge of what food will or will not do. She knows food values. She longs to feed a typhoid by calories. She is prepared to feed the diabetic, or the marasmic babe. She knows the food which raises or lowers blood pressure. She is trained in methods of alkalization. She, too, enters the hospital with high hopes that here she may be allowed to put her knowledge to the test of practical service. Her disillusionment also comes. She finds in the great majority of hospitals that her job is serving food, palatable if possible, enticing in appearance if she has time to make it so, but the *sine qua non* is that it must be cheap. She finds foods divided into "fluids", "light" and "full" diets, with an occasional request for special trays for some fretful patient who imagined that, food served in a hospital was of definite value, for a definite purpose, and insists upon having at least her idea of a hospital tray.

Through a dull round of routine, the trained dietitian is forced into the mere stupidity of earning her living or else she goes elsewhere in search of some Elysium where she may use her equipment.

And why the dissatisfied patient? Why the disappointed dietitian? Why has the Devil entered the hospital through the kitchen? Unquestionably the blame is to be laid at the door of the doctor.

The life of a practising physician is an open book. It is everywhere recognized as the most compelling, the most insistent, of the professions. Without the limit of either time or space the physician works at all hours and from many different centers. The life is one of the expected unexpected. It is also compelling from the angle of intellectual vantage ground. During long hours of actual work the medical man or woman must gather the march of events in the laboratories, must sift the real from the false, must take quickly of all that is valuable and use it definitely for the good of the patient. What time has this busy individual to look into the affairs of a hospital kitchen, or to do more than to demand that his patient be well treated. Probably no question is so often on the lips of the sick as, "What shall I eat?" And undoubtedly no question is so badly answered.

In so many instances the physician knows that half the ills of the stomach come from the conscious eating of food, that it is easy to advise that the act be relegated to the subconscious. Very seldom does this procedure work out. Usually the patient feigns resignation, but keeps up a nightly thinking, and becomes a devotee of Eugene Christian, Fletcher, or some other cult.

Diet Prescriptions

The diagnosis once made, and the program mapped out, would it not be infinitely more satisfactory and productive of greater success if the physician treated the matter of feeding with the serious consideration that it deserves? It is too much to expect that in the busy round of the day's tasks the complex problems of exact feeding can be given adequate attention, and just at this point has arisen the trained dietitian, ready to fill the doctor's food pre-

scriptions with just as much skill as the pharmacist prepares his medical formulae.

The one great law of nature that use insures growth and preservation, and prevents rust, is most applicable here. This paper is not dealing with food values and all the most fascinating dietetic discoveries in recent research, but is a plea for prescription diets, in order, *first*, that the patient, (who by the way is sometimes overlooked in hospital management) may have the advantage coming from team-work; *second*, that the dietitian with all her wonderful possibilities be not allowed to rust; *third*, that the doctor may have the added pleasure of working more scientifically, and with infinitely less care, because standing ready to give intelligent co-operation is the youngest of the allied professions; *fourth*, that the hospital may obtain the two things for which it is eternally seeking—efficiency and economy.

When the laboratories began to put forth some doubt as to absorption of egg-white through the alimentary canal, I heard a head nurse enter a lament as to the fate of the hundreds of thousands of albumens which had been poured down "the little red lanes," and conjecture what could have been done with the money thus expended. All of us have seen the hospital trays come and go untouched, or possibly only a small part devoured, and often have we wondered how such waste could be prevented.¹ Again we turn to the physician.

Intimate Medical Staff Needed

A well ordered, *intimate* medical staff knowing the problems presented by the hospital management, knowing each other, taking cognizance of medicine as a whole, rather than the narrow confines of specialized branches, can make the hospital an institution renowned for its thorough understanding of group medicine, and team-work with its nursing and dietetic professions; or can condemn it to remain in a place where the wheels go 'round, but the cogs do not fit—a machine not geared to the great modern highway of medicine.

The one great point to emphasize is the word *intimate*. The staff must weld itself into solidarity if it expects to influence the hospital. The surgeons must cease to shrug their shoulders at the so called hobbies of the internist. Many a fine impulse and a great desire to do a fine bit of work, is killed by nonchalant ridicule. The internist must not forsake the operating room, and must keep in touch with post-operative procedures. Above all things again we emphasize the word *intimate*. A hospital staff should be willing to sit up at night with the various problems, and learn to know each other so well that such problems can be discussed with utmost freedom, and conclusions reached, can be carried to the management, with the force of unity.

A united staff should ask, and I doubt not, will receive, a trained dietitian, separate and distinct from the household economist who runs the great kitchen. This dietitian should be the friend and adviser of the physician. The medical profession gives her its confidence and accepts her as a co-worker, interested in a program for the proper feeding of the sick. She is not to be a kitchen-god, hidden away in the remote recesses where dwell the pots and pans. She is on the floors of the hospital, she has the run of all important feeding cases, and is properly interested in the charts and general management. She meets

¹This department of medical work should be cared for by prescription. The cost of feeding would then be minimized, the labor would be more accurately divided, and above all, the patients would receive the double benefit of being trained in food values, while being relieved of their ills. The psychology of the institution would be immensely improved, as imagination, contentment and hope resides in the alimentary canal of the majority of patients.

and talks with the doctor and is ready with suggestions if she feels that they are timely, and that she will not receive a "mind-your-own-business" attitude.

The whole matter may be summed up in the inevitable results of supply and demand. If physicians demand dietitians, they will certainly be forthcoming, and if they accept them as members of an allied profession the relation of the one to the other, will be definitely determined.

NEWS ITEMS—MAY, 1920

Miss Helen Borneman, State College, Pennsylvania, Class of 1918, has gone to the Children's Hospital of Akron, Ohio, as dietitian.

Miss Katherine Haggerty left the Naval Hospital at Newport recently and is now at the Fordham Hospital of the Bellevue and Allied Hospitals group, New York City.

Miss Lydia Humphreys, formerly dietitian at the University Hospital, Augusta, Ga., has taken charge of the combined main kitchen and diet kitchen at Hamot Hospital, Erie, Pa.

Miss Carrie Luce, who has been helping Dr. Janney in his metabolism ward in Santa Barbara, Cal., was compelled to give up her work on account of ill health. She is at her home for the present.

Miss Eleanor Jean Stanchfield, B.S. of the 1919 class of the University of Wisconsin, has been appointed dietitian in the Nurses' Home of the Johns Hopkins Hospital to succeed Miss Janie C. Foster.

The following report of changes in the dietary department of Johns Hopkins, and items of interest regarding women who have taken student dietitian training there, were furnished by Miss Agnes O'Dea, head dietitian. What a pleasure it would be to all of us if more dietitians would tell us what they are doing, either personally, or in their departments.

Miss Margaret Prendergast has been appointed dietitian of the Hebrew Hospital at Baltimore to succeed Miss Anthos Nesbit who has become dietitian of the Mount Sinai Hospital, Philadelphia. With Miss Prendergast is Miss Phyllis Rowe who has recently finished her pupil dietitian course at Johns Hopkins. Miss Rowe has charge of the diet school and the serving of the trays in the ward.

The proceedings of the meeting of the American Dietetic Association in Cincinnati are now ready for distribution. Besides the proceedings of the meeting, this publication includes the by-laws and constitution of the Association, a brief history of the organization, and a list of the members. Copies may be secured from the secretary, Miss E. M. Geraghty, 1332 Forest Court, Ann Arbor, Mich., for \$1.00 each.

Plans for the Annual Meeting of the American Dietetic Association are well under way. This meeting is to be held at the McAlpin Hotel in New York City, October 25-27. It is most essential that membership dues be paid at once and that applications for membership be given prompt attention in order that the Executive Committee have, as nearly as possible, an accurate membership list with which to work while formulating these plans.

Miss J. Ernestine Becker, B.S., Cornell University, 1918, takes the place of Miss Ella Shoemaker whose marriage takes place in March. Before coming to the Johns Hopkins Hospital, Miss Becker was dietitian at the Infants Summer Hospital, Rochester, N. Y., and later was employed as an assistant in the Home Conservation Division of the Food Administration during the war. Both Miss Becker and Miss Stanchfield received their training as pupil dietitians at the Johns Hopkins Hospital.

"THE AMERICAN PLAN"

Dr. David Lyman, who during the war was in charge of the organization established by the Rockefeller Foundation and the Red Cross to demonstrate the American plan for dealing with tuberculosis, initiated an interesting procedure in France as a part of the "American Plan."

Cases were brought to his attention of tuberculous patients who could neither be properly cared for at home, nor spared from the home for extended treatment in sanitariums. One case of this sort was that of a little French boy, a delicate child in a tuberculous family. He needed eggs and milk, and as his family could not pay for these, the American organization furnished the food as a part of preventive medicine.

The French approved the action but felt that it would be impossible for them to establish such a precedent—they could never spare the money. Dr. Lyman replied that it was cheaper for them to do this than to let the child get tuberculosis, and care for him afterward.

Then the "American Plan" began to interest the French.

In another case the patient could be cared for at home if a room were available where she could sleep and get plenty of fresh air. Of course there was no such room in the poor cottage, so Dr. Lyman had one built onto the little house. In answer to the amazed questioning of the French, Dr. Lyman answered that it was cheaper to do this than to let the family contract the disease, and have to care for them all in a sanitarium.

The French became more interested in the "American Plan."

When Dr. Lyman arranged for the Tuberculosis Organization to support the family of a patient while he was in a sanitarium, the French again doubted. They were reminded that this was a less costly procedure than letting the man die and supporting the family until the children grew up.

The French, now quite convinced and most enthusiastic, eagerly planned to come to America after the war to see the plan in operation. And Dr. Lyman is wondering just where he will take them to show them the "American Plan" in full swing.

SAN FRANCISCO'S TUBERCULOSIS PROBLEM

George H. Evans in an article entitled "The Tuberculosis Problem in San Francisco," appearing in the March issue of the American Review of Tuberculosis, describes the present tuberculosis situation in San Francisco, at the end of the first decade of organized effort to combat the disease. He summarizes the work performed during this period. The city has been backward in the development of open air schools, though climatic conditions are peculiarly adapted to these. Hospital facilities for from 250 to 300 cases are provided in the tuberculosis departments of the San Francisco Hospital, but this number of beds is only 25 per cent of those needed for the care of advanced cases. The segregation of advanced cases is far from a satisfactory solution of the problem and has thus far entailed much economic waste. The sanatorium problem is also as far from a solution as ever, as the Board of Supervisors has been slow to provide an appropriation for the erection of an institution. The death rate, however, has fallen from 208.9 for the years 1906 to 1910 to 193.6 for 1916. In general there has not been the proper correlation of the various medical and social agencies, and no adequate plans exist for the aftercare of the sanatorium patient.

Knowledge is just like the sun in the heavens, inviting us to noble deeds and lighting our path.—Harvey.

AMERICAN HOSPITAL ASSOCIATION OFFICIAL BULLETIN

Issued by the Executive Secretary

ANDREW R. WARNER, M. D., Executive Secretary
407 Lennox Building, Cleveland, Ohio

AMERICAN HOSPITAL ASSOCIATION SERVICE BUREAU ON DISPENSARIES AND THE COMMUNITY RELATIONS OF HOSPITALS

The Service Bureau on Dispensaries and the Community Relations of Hospitals has been organized under the authority of the trustees, and is now actively at work. Mr. Michael M. Davis, Jr., director of the Boston Dispensary, has been appointed chief of the bureau. Mr. Davis is well known to the members of the American Hospital Association for his work on dispensaries. During the last few years he has traveled extensively over the country studying hospitals, as well as dispensaries in many communities.

The Bureau aims to be of practical use to members of the American Hospital Association under the conditions stated below.

Scope of Bureau

The subjects covered by the work of the Bureau include:

(1) Community Relations of Hospitals:

The amount of hospital service and the kinds of hospital service needed by a community, with special reference to the establishment of new hospitals or the enlargement of existing ones, or to changes in kind of service rendered; the relationships of hospitals to health departments and to other municipal, private health, or charitable agencies; the relations of hospitals to the public, as regards publicity work and financing.

Matters of construction, equipment, or internal administration of hospitals are not included within the scope of this Bureau.

(2) Dispensaries:

The planning, organization, equipment, and management of dispensaries; dispensary record keeping and financing; efficiency studies of dispensaries.

Study of the need of a community or district for dispensary work; amount and kinds required.

(3) Social Service:

Organization, activities and management of Social Service Departments in hospitals or dispensaries.

How Bureau Service Is Rendered

1. By correspondence.
2. By personal conference with the chief of the bureau or a member of its staff.
3. Investigations or surveys of institutions or of communities will be made by the Bureau, with reports and recommendations.

Besides answering inquiries received by mail through

the offices of the Association or otherwise, the Bureau is now making a survey of several hospitals in Philadelphia, and has in hand requests from several other institutions and communities for advice and field investigation along one or more of the above lines.

Money has been contributed to the American Hospital Association sufficient to finance a *national study of hospital social service*. The president of the Association, Dr. Joseph B. Howland, has appointed a committee to take charge of this study, in connection with the Bureau, as follows:

Michael M. Davis, Jr., chairman, Boston Dispensary, Boston, Mass.

Miss Ida M. Cannon, Social Service Department, Massachusetts General Hospital, Boston.

Miss Lillian Clayton, president National League for Nursing Education, Philadelphia General Hospital, Philadelphia, Pa.

Miss Ruth V. Emerson, director Home Service in U. S. P. H. S. hospitals, American Red Cross, Washington, D. C.

Dr. S. S. Goldwater, superintendent Mount Sinai Hospital, New York City.

Miss Edna Henry, president American Association of Hospital Social Workers, Indianapolis, Ind.

Miss Mary Jarrett, Psychopathic Hospital, Boston, Mass.

Mr. Porter R. Lee, director, School for Social Work, 105 East Twenty-second Street, New York, N. Y.

Dr. James A. Miller, 379 Park Avenue, New York, N. Y.

Rev. Father John O'Grady, Catholic University, Washington, D. C.

Mr. Fred M. Stein, chairman Social Service Committee, Federation of Jewish Charities, 50 East Forty-first Street, New York, N. Y.

Miss Katherine Tucker, president National Organization for Public Health Nursing, Philadelphia, Pa.

Miss Mary Wadley, Social Service Department, Bellevue Hospital, New York, N. Y.

Dr. Frankwood E. Williams, assistant secretary, National Committee on Mental Hygiene, 50 Union Square, New York, N. Y.

Dr. Joseph B. Howland, president, American Hospital Association, *ex officio*, Boston, Mass.

Dr. A. R. Warner, executive secretary, American Hospital Association, *ex officio*, Cleveland, Ohio.

The committee has engaged as field secretary, Anna M. Richardson, M.D., of New York. During the next few months she will visit a selected number of the chief cities in which hospital social service is carried on. Information will also be gathered by correspondence. The scope of the study is to include the functions and organization of social service in hospitals and dispensaries, the per-

sonnel of existing social service departments, and the training of workers for this special form of service in medical institutions.

It is expected that a report will be made by the committee at the next convention of the American Hospital Association during the first week of October, in Montreal.

How to Secure the Services of the Bureau

Information or advice on any of the subjects mentioned above will be furnished by the Bureau to any institutional or personal member of the Association.

There is no charge to members for any service rendered through correspondence.

When the service desired includes not only correspondence but personal visits of the director or a member of the staff of the Bureau, and surveys or field investigations, a charge will be made to institutional members to cover the actual cost to the Association, not figuring in any overhead expense. The total cost to members would thus be substantially less than the usual expense of such services.

Non-members of the American Hospital Association may secure the services of the Bureau, but must pay a higher fee to include overhead expenses.

Inquiries may be addressed to the executive secretary of the American Hospital Association or directly to Mr. Michael M. Davis, Jr., 25 Bennet Street, Boston, Mass.

SERVICE BULLETINS TO INSTITUTIONAL MEMBERS

In the past month service bulletins have been issued to institutional members on the following subjects: Canned Fruits, Sale of Surplus Navy Provisions, Tax Free Alcohol, The Use of Alcoholic Liquors by Hospitals, Service Bureau on Dispensary and Community of Hospitals, and Canned Vegetables.

It has required considerable effort to get together the information contained in these bulletins and verify it in detail, but it is the policy of the association to use this office for this purpose, *i. e.*, to dig out useful information which will be of value to hospitals and to distribute it. These bulletins are carefully prepared, read by several persons to develop clearness and eliminate all possibility of misunderstanding, and every statement however much in detail is verified from competent authority on that particular subject. These bulletins, therefore, do not represent simply the ideas of the executive secretary or any other person, and all statements made therein can be fully depended upon.

CHICAGO OFFICE AND CHANGE OF ADDRESS

On May 1st the office and business address of the association will be transferred to 22 East Ontario St., Chicago, Ill., in the building recently purchased by the MODERN HOSPITAL PUBLISHING Co. The two upper floors of this building will be used as editorial and business offices of THE MODERN HOSPITAL. On the ground floor will be the offices of the American Hospital Association and the offices of a combination of Catholic hospital interests. The building contains on this floor a very large (25x32) room beautifully and fully equipped as a library, together with some other spaces. It is the hope and plan of several interested persons to develop this as a Library and Service Bureau for Hospitals with the support and backing of various hospital organizations and others interested, that hospitals may obtain from here data and information regarding any of its lines of activity.

This building is located about one block from the building purchased by the American College of Surgeons which will soon be the permanent headquarters of this organization. It is also quite near the home and offices of the American Medical Association. The location, therefore, has many advantages.

THE HEART MUST BE SAFEGUARDED

An editorial in the January issue of the *Indianapolis Medical Journal* calls attention to the fact that in the largest cities of the United States the death rate from heart disease is greater than that from tuberculosis. "During one year in New York there were 10,682 deaths from heart disease, and from all forms of tuberculosis 9,622. Since we hear of cancer being like a holocaust it might be mentioned that there were 4,702 deaths from this disease."

The article warns that the time for conservation is when the disorder is functional and amenable to treatment. Rheumatism as a cause, and stimulating beverages in the rôle of predisposing factors are to be considered.

Advance comments on the report of the census state that the deaths from organic diseases of the heart numbered 124,668, or 152.3 per 100,000 population. The death rate from this cause shows a slight decrease as compared with 1917, when it was 153.2 per 100,000. There have been fluctuations from year to year, but in general there has been a marked increase since 1900, the earliest year for which annual mortality statistics were published, when the rate for organic diseases of the heart was 111.2 per 100,000 population.

The importance of conservation in heart cases is indicated by these figures.

GIVE DISABLED MEN ADVICE AS TO FUTURE WORK

Disabled men applying for training from the Federal Board for Vocational Education often have very impracticable ideas as to the work they wish to undertake. Great care is taken by the Board that the feelings of the men are not hurt. Suggestions are made for another kind of training, and in nearly every case the applicant is pleased.

One veteran contracted tuberculosis while in the service. His request for medical training, covering a four years' course of confining study, would simply kill him, so he was shown the necessity for fresh air, and picked something for which he was fitted.

Another veteran will always limp as the result of a German bullet in his leg. His proposition to exchange the money value of his training for a pair of mules to plow his farm shows that he has a head for business, but the Board is not given authority to swap mules or any other kind of live stock for vocational training. Naturally the veteran is disappointed when acquainted with this fact, but he is offered such a tempting course of training that he cannot help but see that the mules he asked for today will be dead or broken down when he has finished the training that will insure his ability to buy mules by the hundred.

Health lies in labor, and there is no royal road to it except through toil.—Wendell Phillips.

You hoard not health for your own private use,
But on the public spend the rich produce.

—Dryden.

DISPENSARIES AND OUT-PATIENT DEPARTMENTS

Conducted by MICHAEL M. DAVIS, JR.
Director, Boston Dispensary, 25 Bennet St., Boston

NEW YORK DISPENSARIES: MEDICAL ORGANIZATION*

A section of Report made by the Public Health Committee of the New York Academy of Medicine on the New York Dispensaries.

Institutional Affiliations of Physicians

(a) *Total Number of Physicians Working in Dispensaries of New York City and the Amount of Service Rendered.*—In order to ascertain exact figures relative to institutional affiliation of physicians, the dispensary and hospital associations of every physician in New York City have been analyzed, and the accompanying table is a succinct presentation of prevailing conditions.

Twelve and six-tenths per cent of the total number of 7,966 physicians of Greater New York have none other than dispensary affiliations, one-fourth of those serve in more than one dispensary. A similar number, 12.8 per cent of the total, are connected with both a hospital and a dispensary; while 26.2 per cent of the body of physicians have only hospital associations. The remaining 2,863 physicians, or 48.5 per cent of the total, have no institutional affiliations of any kind.

In the borough distribution of institutional affiliation, Manhattan and the Bronx stand highest, being above the average in every type of affiliation, while in boroughs of Queens and Richmond, with a small number of hospitals and dispensaries, make the poorest showing.

(b) *Compensation of Physicians in Out-Patient Departments.*—The question of whether or not dispensary physicians should be paid is an insistent one. The tendency at the present time is toward the payment of small salaries, not primarily with the idea of adequately reimbursing physicians for the time and effort spent, but rather as an honorarium or recognition of the physician's service and in order to give the administrative authority of the dispensary a control which it is otherwise difficult to maintain. The physician as a paid employee recognizes a more definite responsibility toward his dispensary work

than does the unpaid physician. This is the unanimous opinion of dispensary executives who have had experience with both paid and unpaid medical service, and the records of attendance of physicians in those dispensaries where salaries are paid conclusively prove this statement.

Few Have Salary Schedule

Only five of the institutions studied have a definite salary schedule which applies to all physicians. In the Lincoln Hospital Dispensary chiefs of clinics and first assistants receive \$15 and second assistants \$10 a month. In the Ruptured and Crippled Hospital Dispensary, chiefs of clinic receive \$50 a month and assistants \$25. In the New York Orthopedic Hospital Dispensary, attending surgeons receive \$83.33 a month, and assistant attending surgeons \$50.

- (a) *Total number of physicians working in dispensaries of New York City and amount of service rendered.*
- (b) *Compensation of physicians in out-patient departments.*
- (c) *The development of special clinics.*
- (d) *Public health centers.*
- (e) *Pay clinics.*
- (f) *The Workmen's Compensation Act in relation to dispensaries.*
- (g) *Home visiting medical service.*
- (h) *Laboratory and x-ray service.*
- (i) *The nurse in the dispensary.*
- (j) *The dietitian in dispensary work.*

INSTITUTIONAL AFFILIATIONS OF THE PHYSICIANS OF NEW YORK

Borough	No. of Phys. Connected with one Disp.	No. of Phys. Connected with more than one Disp.	No. of Phys. Connected with hospital and Disp.	No. of Phys. Connected with one or more hospitals.	No. of Phys. with no hospital or Disp. connection.	Total number of physicians
Manhattan and Bronx....	571	189	735	1,370	2,629	5,493
Brooklyn	172	47	262	584	1,054	2,119
Queens	15	4	16	101	142	278
Richmond	3	..	5	30	38	76
City of New York ..	761	240	1,018	2,085	3,863	7,966
Manhattan and Bronx ...	%	%	%	%	%	%
Brooklyn	10.4	3.4	13.4	25.0	47.8	100
Queens	8.1	2.2	12.4	27.6	49.7	100
Richmond	5.4	1.4	5.8	36.3	51.1	100
City of New York ..	4.0	...	6.6	39.5	49.9	100
City of New York ..	9.6	3.0	12.8	26.2	48.5	100

*This is the second chapter in a series of four chapters taken from this report because of their special interest to dispensary and hospital executives. Chapter 1, "Organization, Administration, and Equipment of Dispensaries," was published in two parts, Part I in the February issue, Part II in the March issue.

In the New York Dispensary attending physicians receive \$33.33 and \$50 a month, depending on the number of hours of service. In the New York Hospital, chiefs of clinic receive \$25 a month, other principals (not chiefs) \$16.66, and the remainder, \$8.33.

In the institutions in which teaching is an essential feature of the dispensary program, the dispensary physicians who are also members of the teaching staff of the school are paid, but payment is for their services as teachers rather than as dispensary workers, and varies widely, depending on the amount of teaching work required and their rank on the teaching force.

In certain other dispensaries salaries are paid for special services. In the Presbyterian Hospital the chief of the tuberculosis service receives \$1,000 a year and his assistant \$500, and in the dispensaries of the Bellevue and Allied Hospitals group, physicians in tuberculosis work receive \$600 or \$300 a year, depending upon their work. In the Brooklyn Dispensary three physicians of the orthopedic clinic are paid \$25 a month each. In several institutions the physicians doing refraction work are specially paid. The district physicians at several of the dispensaries who make home visits and hold consultations at the dispensary are paid at varying rates. The medical director of the Demilt Dispensary and the Brooklyn City Dispensary receive \$1,500 a year each, as does also the physician-in-chief of the New York Dispensary.

It would perhaps be impossible to fix a standard salary schedule for dispensary physicians, owing to the fact that there is no standardization of responsibility which may be expressed in terms of the titles of dispensary physicians. All good hospital dispensaries, however, in which the requirements of service are comparable, would find it possible to establish salary schedules on a comparable basis, provided, of course, the principle of salary payment is approved generally.

As against the plan of paying salaries to physicians, which in a large dispensary such as Mt. Sinai would mean a very burdensome increase in the dispensary budget, the plan of offering promotion to dispensary physicians, as suggested in another part of the report, should be considered. Dispensary physicians are strongly in favor of the salary plan under existing conditions, and unless some other way is devised of rewarding physicians, through the raising of admission fees, the adoption of the "pay" clinic plan, or some other plan which would permit physicians to obtain certain fees for their work, it is believed that all dispensaries will find it necessary sooner or later to raise funds for paying physicians.

(c) *The Development of Special Clinics.*—The division of clinics into medical and surgical, with their respective sub-divisions, is the commonly accepted grouping of the out-patient work in most of our large general dispensaries. The usual plan is to divide the clinics during the week on this basis, three days being devoted to medical cases and three to surgical cases; and dispensary physicians, attached to one or the other of the two main divisions, are on duty ordinarily only three days each week.

Further differentiation of clinics has, however, been dependent upon a number of factors. In those dispensaries which are parts of medical schools, such as the Vanderbilt Clinic and the Cornell Dispensary, specialization of clinic service has been chiefly dependent upon the instruction program of the medical school. The same is true of those hospital dispensaries in which undergraduate or postgraduate instruction is a definite part of the dispensary program, as in the Polhemus (Long Island College Hospital Dispensary) and the Post-Graduate Medical School and Hospital Dispensary. In other dispensa-

ries, however, the development of special clinics has been influenced chiefly by: (a) the interest shown by individual physicians in certain types of disease; (b) the availability for dispensary work of physicians expert in the diagnosis and treatment of special types of disease; (c) the character and needs of the community served; and (d) the space available for dispensary purposes.

Range of Clinic Service

The range of clinic service offered in the general dispensaries included in this study is indicated in the following list:

Applied therapeutics	Internal medicine
Cardiac	Massage
Chiroprody	Medicine (general)
Dental	Mental hygiene
Diabetic	Neurology
Diseases of metabolism	Nose and throat
Ear	Obstetrics
Eye	Orthopedics
Fractures	Pediatrics
Gastric	Prenatal
Gastro-intestinal	Proctology
Genito-urinary	Skin
Gynecology	Surgery (general)
Hydriatic	Syphilis
Infant hygiene (chiefly educational)	Tuberculosis
	X-ray and electric treatment

Which of the factors mentioned has been most influential in the development of this plethora of special clinics it is impossible to say, but there is warrant for believing that the most influential factor is, in the majority of instances, the interest of individual physicians in certain types of disease. The physician who takes an interest in a particular type of disease and gives attention to his patients, soon builds up a clientele. When the number of patients becomes large enough, the proper handling of this special group of patients necessitates the assignment of separate space. The next step is the recognition of the physician's efforts by the creation of a special clinic.

In a few dispensaries the factor chiefly influencing the development of special clinics has clearly been the amount of space available for clinic purposes. At dispensaries which, like those of the Lincoln Hospital and the New York Hospital, are cramped for space, the principal clinics are medicine and surgery. On the other hand, at Lebanon, Gouverneur and Mt. Sinai hospitals, which have recently built new dispensary buildings, the improved dispensary quarters provided have resulted in considerable expansion of service along special lines to include a large number of special clinics.

Organization of Special Clinics

With the development of special clinics, the whole problem of organization and administration becomes more and more complex. Furthermore, each new special clinic means additional cost to the dispensary. Dispensaries should, of course, be free to develop as best they can to meet their own and their community's special needs; the multiplication of special clinics, however, should not be haphazard but should proceed in conformity with certain guiding principles. Only a few general rules could be laid down for the guidance of the institutions of a city like New York, varying as much as they do in policy, available space, and financial resources.

It would seem that the following two principles should

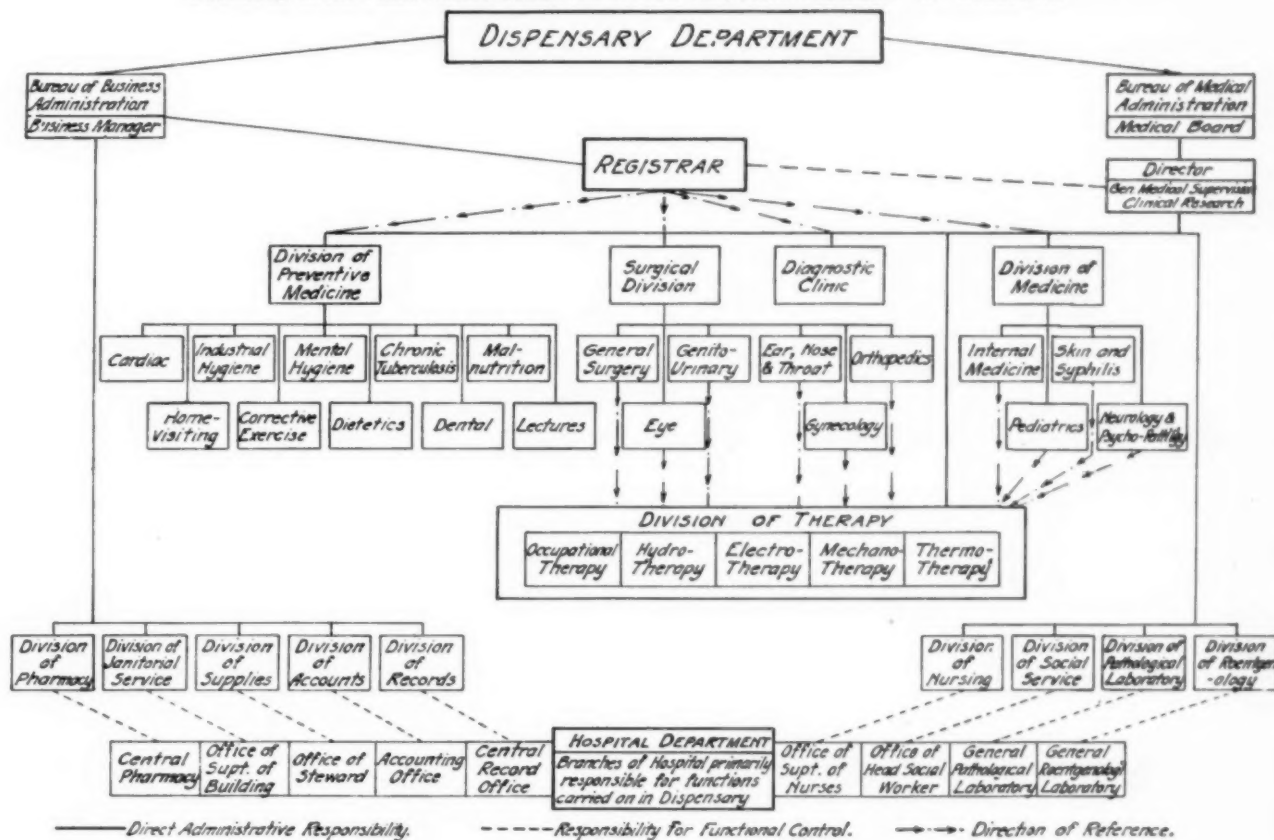
find general application, except that teaching institutions might, for purposes of instruction, establish special clinics which have no *raison d'être* in non-teaching general dispensaries.

1. That the special clinics should be limited as far as possible to those branches of medicine in which large

is the educational guidance of mothers. Whether future development of prenatal clinics will be in connection with the general dispensary services or not is still problematical. On the other hand, the industrial hygiene clinic, which properly should be regarded as a disease-prevention clinic, has developed thus far independently of

TENTATIVE PLAN OF ORGANIZATION OF LARGE HOSPITAL DISPENSARY

SUGGESTED BY THE PUBLIC HEALTH COMMITTEE OF THE NEW YORK ACADEMY OF MEDICINE



numbers of physicians have made themselves expert—that is, the generally recognized specialties.

2. That further specialization, if necessary to meet some peculiar local condition or to satisfy interest of individual physicians, be provided for within existing clinics by the designation of special sections of such clinics rather than by the establishment of new clinic departments—thus concentrating responsibility for direction of clinic work in fewer medical officers.

The maximum degree of specialization, if these principles be accepted, would permit the establishment of the following clinics: Medicine, surgery, pediatrics, genito-urinary, orthopedics, dermatology, eye, ear nose and throat (in combination or separately), gynecology, tuberculosis, and neurology.

(d) *Public Health Centers.*—The prevention of disease as distinguished from the treatment of disease offers a wide field for the development of special clinic services, thus far almost entirely neglected. Some of these preventive services have been recognized as dispensary specialties in several of our large general dispensaries. "Mal-nutrition" classes and babies' milk stations are a development in this direction. Likewise, prenatal clinics, which have been established in several dispensaries, are primarily disease-prevention clinics and their chief function

the general dispensary work. The educational opportunities which each dispensary possesses are almost totally neglected, although, as has been pointed out above, a great deal could be accomplished in that direction by exhibits, demonstrations, and other methods at the disposal of the clinic authorities, without much additional cost and without causing any derangement in the existing administrative organization.

There is, however, a much wider opportunity in the direction of public health endeavor. The dispensary could be made to serve as a health educational forum for the neighborhood. In addition to lectures, conferences might be held at which the health problems of the neighborhood could be discussed jointly with the representatives of the social and civic agencies and of the Health, Tenement House, and other departments of the city. The dispensary could be made a center of gravitation in all work aiming at prevention of disease, as well as the place where people go to have their ills treated. Periodical physical examinations are considered essential for checking the insidious workings of certain diseases, and the dispensary could easily develop this service at a time of the day when the plant is free from other claims upon it.

Aside from transients, every dispensary has a fixed

clientele,—people of small means who come whenever trouble develops. These are the people who should be, could be, and would be reached the moment the dispensary announces that it is ready to advise its clients as to their physical conditions at stated intervals, in order that early attention may be given to an incipient disease, the unsuspected existence of which an examination may disclose.

In 1913 a special committee of the Board of Estimate and Apportionment of New York recommended to the city that a health center with far reaching scope be established for experimental purposes in connection with Bellevue Hospital. The aims of such a center, as formulated by the committee, were as follows:

"The proposed health center is designed as an experiment to enable the city to determine whether or not: (a) it should attempt to give home treatment; (b) cases can be classified as those which should or should not go into hospital for treatment; (c) information as to living and working conditions will aid in the prevention and treatment of sickness.

A health center properly operated should accomplish the following results:

1. It would bring the hospitals and Health Department into cooperation, and leave no uncovered territory between the functions performed by each.

2. It would enable the hospitals to secure thorough knowledge of the working and home conditions of patients coming into the hospitals, and any factors contributing to sickness.

3. It would retain at home many patients who otherwise would go to the hospitals, and would exercise an intelligent opinion as to those who should or should not be treated in the hospitals.

4. It would give more intelligent care to convalescing patients, which is now given in but a limited degree by the Social Service Department of Bellevue Hospital, and would restore these patients to health and working vigor much sooner than is now done.

5. It would advise patients when to go to an outpatient department, and, by visits to their homes, would induce them to make as many subsequent visits as might be needed to effect a cure.

6. By maintaining supervision over contagious and infectious cases cared for at home, their possible spreading would be minimized.

7. Cases of contagion discovered by the physician and nurses of Bellevue would come to the notice of the inspectors of the Health Department at once and thus would be obviated the delay due to the process of notification by mail.

8. The instruction of mothers in a health center should be a material aid in securing and maintaining health conditions in the family.

9. Centralizing information and records of a district at one place would make them accessible to all agents in the district, thus rendering it possible to treat a large proportion of sickness at its inception. By this system, duplication of effort would be reduced, the hospitals would be relieved, and the amount and duration of sickness diminished."

The idea of health centers has gained ground, and before long experiments in that direction will no doubt be tried out, both as independent units and in connection with dispensaries.

(c) *Pay Clinics.*—The "pay" clinic is a comparatively recent development of dispensary service in New York City. The "pay" clinic as distinguished from the "free" clinic, provides medical diagnosis and treatment at a fee more commensurate with the service rendered, including

payment to physicians doing the work. The pay clinic aims at the utilization, in a cooperative and economical way, of the services of physicians and the facilities of the dispensary for providing efficient service to patients able to pay a moderate fee. The pay clinic is designed chiefly to meet the needs of the wage-earner who is usually at work during the day, and is therefore conducted in the evening.

The differentiation of "free" and "pay" clinics is perhaps most clearly made on the basis of the fee charged. In the so-called "free" clinics the patient pays a nominal sum, varying ordinarily from 10 to 25 cents, depending to some extent upon the cost of service rendered, but not designed to make the service self-supporting. The pay clinic, on the other hand, endeavors invariably to meet all of the expenses involved, from the proceeds of the clinic.

The operation of pay clinics, and particularly evening pay clinics, places an added burden on the physician, and he must, of course, be compensated therefor. Because of certain special requirements of the pay clinic, similar in many ways to private practice, and the difficulty of obtaining desirable men for regular evening work, a pay clinic would be difficult to fit into the plan of combined hospital and dispensary medical organization. For the most satisfactory operation of the pay clinic plan, it would seem advisable, therefore, to designate separate and independent medical groups which would be constant and not subject to a promotion plan, such as has been suggested. Regular physicians of the free dispensary service should, however, have preference in the appointment of physicians of a pay clinic, if they desire this additional work.

DISABLED MEN CAN BE BARBERS OR HAIRDRESSERS

A series of studies on the suitability of certain trades and on the training which will fit disabled men for those trades have been appearing recently in the *Inter-Allied* magazine which is published at Paris under the title *Revue Interalliée pour l'Étude des Questions intéressant les Mutilés de la Guerre*. These articles have been contributed by Dr. Charles Vallée, the medical director of the large school for disabled soldiers in the Grand-Palais in Paris, and are based on the experience of the school. The latest discusses the trade of barber and hair-dresser.¹

Both barbering and ladies' hair-dressing, the article states, can be practiced by men who have an artificial leg, a club foot, or a shortened or stiff leg, but men who have lost both legs, or who are prevented by paralysis or other injuries from standing are limited to work on false hair pieces. Slight injuries to the hands and arms, such as amputation of the little and ring fingers, bone grafts in the left arms, and other similar mutilations, do no debar a man, nor does radial paralysis, or drop wrist, when the patient is fitted with an appliance which makes a grip possible. A former barber who has lost an eye can go back to his trade, but a new man with only one eye cannot be successfully trained. Trephined cases, if not paralyzed, find making hair pieces a good, quiet, sedentary occupation.

A detailed outline of the instruction in the various branches of the trade given at the Grand-Palais is included in the article. Of eighty-one men trained since the class opened, fifty are said to have passed the guild examination in competition with normal men.

The first wealth is health.—Emerson.

1. Long, E., and Charles Vallée. L'art de la coiffure. *Revue Interalliée pour l'Étude des Questions intéressant les Mutilés de la Guerre*, Paris, 1919, II, 114-130.

HEALTH AND MODERN INDUSTRY

Conducted by BARROW B. LYONS

15 Fort Washington Avenue, New York City

WORK OF NEW YORK CITY DIVISION OF INDUSTRIAL HYGIENE

By S. DANA HUBBARD, M.D., Superintendent, Division of Industrial Hygiene, Department of Health, New York City.

In the year 1915 there was organized within the Department of Health a Division of Industrial Hygiene. This Division was largely experimental and the entire staff consisted of four lay and four medical inspectors, under the direction of the Chief of the Bureau of Preventable Diseases. The occupational clinics, organized primarily for the examination of food handlers, were a part of the Division of Industrial Hygiene.

Due to the limited staff, the work was necessarily much restricted, and consisted principally of physical examinations of special occupational groups. In February, 1919, this division was entirely reorganized, the budget of that year carrying appropriations for a greatly increased staff. The division was separated from the Bureau of Preventable Diseases and placed directly under the Office of the Commissioner, and Dr. S. Dana Hubbard was made superintendent. The staff consisted of ten women lay inspectors, ten medical inspectors, two of whom were women, ten clinical physicians, and ten male lay inspectors. This staff was temporary and functioned until the permanent staff was promulgated by the Civil Service Commission. This occurred in August, when the following staff was appointed: seventeen male lay inspectors, eight female lay inspectors, and ten medical inspectors.

The work of the Division of Industrial Hygiene confines itself to those matters which directly pertain to the health of the industrial worker, and to all the factors which have any bearing thereon. A large part of the work is necessarily of an educational character, and inasmuch as the State Department of Labor, the Sanitary Bureau, and the Bureau of Food and Drugs of the New York City Health Department work along closely parallel lines, it has been the endeavor of this Division to cooperate in every way with these and similar bureaus, in order to avoid duplication of work, and to achieve the maximum of efficiency.

Inspections are made of the factories with a view to inquiring into conditions incident to the work done therein, and discovering whether the environment in which it is done tends to militate against the welfare of the worker. Lectures are given on health subjects to the workers during the noon hour, or, in some cases, with the consent of the employer, on the company time. These lectures, usually four in number, are given on the same day in four successive weeks and cover the following topics:¹

1. Personal Hygiene.
2. Accident Prevention.
3. Personal Habits.
4. Venereal Diseases.

Physical examinations are advised, and their value carefully explained, both to employer and to employee. It is found that when the object of these examinations is thoroughly understood, they are cheerfully submitted to. The conditions under which they are given vary in the different factories. In some places they are given in the rest rooms at the noon hour; in others, partly on the employee's time, partly on the employer's time. In still others, the employer permits them to be given entirely on his time.

Examined at Union Headquarters

It is sometimes found that facilities necessary to secure privacy are not obtainable in the factory, and in those cases the workers, if unionized, are examined at such time as convenient to them in their union headquarters; or, if ununionized, they are advised to report direct to the Health Department.

These examinations are quite thorough, and are strictly confidential. The results are communicated by letter direct to the individual examined, who is thus advised of any physical defects from which he may be suffering, and the steps which he should take to remedy them. To date, physical examinations have been made of 1,500 lithographers and engravers, 107 auto drivers, and 500 miscellaneous. It is hoped that, as the importance of physical examinations becomes better understood by the general public, the Division of Industrial Hygiene will be enabled to institute a system of annual examinations of industrial workers, which will go far toward eliminating the present huge total of time lost, due to avoidable illness. Recently, this Division has begun the installation of industrial clinics within those plants which maintain no welfare department of their own, and it is felt that when the value of these clinics has been demonstrated, the firms will feel it worth while to institute a welfare department along similar lines.

Drug Addicts in Industry

In the early part of April, the Federal Government, acting under the provisions of the Harrison anti-narcotic law, conducted a series of raids against doctors, druggists, and others suspected of being implicated in the illicit sale of narcotics. This divorced from their usual source of supply a large number of addicts, of all classes of society.

As the Department of Health is the natural haven of the public, when in trouble, we found ourselves suddenly confronted with several hundred of these unfortu-

¹The outlines of these lectures, furnished to the Editor of this department, will gladly be furnished upon request. Space does not permit including them here.

nates in dire need of immediate assistance. A very little investigation sufficed to show that the majority of the addicts were engaged in some form of industry. Further investigation revealed that they had succeeded in concealing their vice, not only from their employers, but even from members of their immediate families, and that unless assistance were given them, discovery, with loss of employment and consequent deprivation for those dependent upon them, was sure to ensue. It thus became an industrial problem, in the true sense of the word, and as such, the Division of Industrial Hygiene instituted the first narcotic clinic at 145 Worth Street, and treated the addicts until funds were provided for special management.

Public Education Through Publicity

Publicity has been achieved through the printing of pamphlets on all matters of health vital to the industrial worker, through posters on health subjects, suitable for display in the workshops and other public places, and through formal and informal talks to workers, unions, clubs, parents' associations, community centers, churches, schools, and night schools. In this way, it is attempted to reach every class of the population with the Division's important message of health conservation.

Conventions bearing on subjects of importance to this Division were attended during the past year by the Director at Cleveland, Pittsburgh, Atlantic City, and Harrisburg, and at Washington, D. C., by the supervising inspector.

Articles covering phases of the activities of the Division of Industrial Hygiene are furnished to publications interested in the same, and to the daily press. It is hoped, when the general public realizes the valuable work done by the Division, it will appreciate that such portion of its taxes as are expended for the Division's maintenance is money well and wisely invested.

Different Classes of Industry Inspected

Jewelry	Dye Works
Garages	Furriers
Clothing	Machine Manufacturing
Woolens	Metal Works
Tobacco and Cigars	Toys and Infants' Novelties
Artificial Flowers	Plating, Polishing, Etc.
Chemicals	Textile
Printing and Lithographing	Glass Cutting
Rags	Laundries
Paper Box	Doll Manufacturing
Woodworking	Film Manufacturing
Storage Batteries	Millinery
Shoes	Leather Goods
Embroidery	Paints
Foundries	Ship Building
Iron Works	Stone Cutting
	Miscellaneous

RECENT HEALTH SERVICE

In a recent issue of THE MODERN HOSPITAL a short article was published briefly describing some of the specific problems which the industrial service of the United States Public Health Service undertook to solve last year. The editor of this department of THE MODERN HOSPITAL recently received a communication from Dr. Bernard J. Newman, who is in charge of this work, which brings the article in the last issue up to date, briefly describing the more recent activities of the United States

Public Health Service in this field. Dr. Newman's outline follows:

(1) This office has secured and detailed to the Bureau of Mines (salaries met by the Bureau of Mines), five medical officers and one engineer to assist that bureau with problems connected with mine hygiene.

(2) In like manner this office has secured and detailed to certain ordnance plants qualified medical officers to have charge of the medical and surgical relief work requested by the United States Employee's Compensation Commission.

(3) Frequent details to investigate the hygiene and sanitation of government buildings including those engaged in industrial processes are assigned to the Office of Industrial Hygiene. One such detail has opened up a comprehensive study of dermatic consequences attendant upon certain processes in printing and engraving.

(4) A comprehensive survey is being made into the occupational health hazards resulting from the use of cutting oils and compounds.

(5) A broad study into the occupational hazards of the foundry trades, including foundries engaged in gray iron, malleable iron, brass, and similar substances, is under way. Complete physical examinations are being given to all employees engaged in such trades. The work is being carried on in the foundries of northern New Jersey and lower New York.

(6) The data collected in the plant survey and physical examinations of the employees in hazardous processes of pottery making is now being tabulated, and the report is in the process of preparation.

(7) The study into air conditioning, begun for this office by Consulting Hygienist C.-E. A. Winslow, is being continued. Special experiments in a new type of fume line carrier are being conducted. Several reports leading to the establishment of standards for air dustiness have been published.

(8) Consulting Physiologist Frederic S. Lee, in behalf of the Service, is continuing his research into fatigue in industrial plants.

(9) The cross section study of industrial plants in and adjacent to New York Harbor has been completed. The temporary clinic for the physical examinations of workers instituted in connection with this study has been discontinued.

(10) Consulting service has been rendered, to a lesser extent than in the previous year, owing to the congressional curtailment of appropriations for this work, and to plants having difficult health hazards, seeking assistance in the determination of the causes and an outline of preventive measures with reference to the same.

(11) Special work has been done in connection with tellurium poisoning in smelting plants. A preliminary report has been prepared for publication.

(12) A special research is now in contemplation. Preliminary steps have already been taken in it to ascertain safe lifting weights for women workers. With the increase in number of women workers due to labor shortage there are bound to be numerous problems arising, involving hazards of unknown character. The war period brought up one such hazard in the weights which women workers were required to lift. A request was made at that time for the service to study this field in the hope of arriving at certain definite standards.

(13) Constant demands are being made upon the Office of Industrial Hygiene for information as to acceptable standards for personal service facilities. Data are being collected, and a report on this subject is contemplated in the near future.

(14) Numerous physicians have registered with the Office of Industrial Hygiene for positions with manufacturing establishments as industrial physicians and surgeons and requests have been received from manufacturing establishments for recommendations to fill vacancies.

(15) The Office of Industrial Hygiene has in contemplation numerous bulletins on occupational diseases, while the Bureau of the United States Public Health Service has many such bulletins available for distribution. Colleges and other institutions of learning have made frequent demands upon the office for special lectures in the field of industrial hygiene, also for advice and assistance in the organization of courses on industrial hygiene in their medical and engineering schools—forms of activity in which the office is particularly interested and, when convenient, glad to cooperate.

(16) In the laboratory work necessary to the conduct of special types of research the Office of Industrial Hygiene has not only had the assistance of the Hygienic Laboratory of the United States Public Health Service, but of the Bureau of Standards, and also of laboratories in industrial establishments in certain city and state departments of health as well as laboratories of universities in the cities where the research work is being conducted.

(17) The Office of Industrial Hygiene is the recipient of numerous inquiries from correspondents throughout the country relative to occupational conditions and the hazards associated with certain occupational processes. Advice is sought on matters of community sanitation and hygiene of industrial towns as well as industrial establishments, and assistance is rendered to civic association and Chambers of Commerce in determining the scope of service which might be directed with feasibility by such bodies. Similar advice and assistance is given to hospitals and civic associations desirous of establishing occupational clinics.

PRISONER AND FREE MAN

By EDWARD H. CLEVELAND, M.D., Superintendent, The House of Rest for Consumptives, Bolton Road, Inwood-on-the-Hudson, N. Y.

How I got there I could never have told. My week's wages had something to do with it. Also certain fellows of erratic habits. Anyway I landed penniless among others, with time to serve—three months, six months, or a year—as it might happen.

I remember one chap saying to me: "This is fine, bo! Great place! Only two or three hours' work a day, three good meals, a clean bed, and plenty of time to loaf and smoke. Me for this, if they will keep me always!"

There was another, with a woeful countenance, who said to me: "Isn't this frightful? My first experience of such a place. My heart is broken, my whole life is spoiled! How shall I ever be able to hold up my head again and look people in the face, let alone my poor wife and mother! It is a terrible thing to blight a young man's life for a mere peccadillo!"

For myself, it was not my first experience.

On a Sunday the chaplain talked to us and we sang. It seemed like a dream to me. He said: "There must be some few of you who will yet make good. I'll tell you what,—if any man will go home when he gets through here, and stick to his job and do right by his little family, I'll come over some day and sit down at his table with him and visit him in his home. The words rang in my ears long afterward. It seemed impossible to forget them.

Something else he said stuck by me in spite of myself,—

"Can't we make up our minds to live within limitations?" I knew I could, but would I? There was the rub. Day after day the echo of his words followed me to and fro, sounded in my heart by day, and haunted me o' nights.

So the weeks passed, slowly enough, and in the travail of them a new hope was born.

* * * *

The old man in the printing office down town was good to me when I got the chance to see him. Said he would try me again. And it did not take so long as one might think to get the wife and the two boys into a snug little flat, near the Brooklyn end of the bridge. Then as we sat one night at supper we spoke of asking the chaplain over to visit us. A few lines were all that were needed. He came on the day set.

That was all. A friendly chat, as though we had always lived decently, as though he had known us always, and valued our friendship.

It is several years since that first visit.

By the grace of God and the benefit of prayer, and the daily effort to encourage and urge on some other chap getting back into line, I am making good. I am living within limitations. I am grateful for the hard experience, and most of all for the loyalty and devotion of the little woman and our two boys, who look to me to stand firm for what I know is right. John Barleycorn is buried, or nearly so, in the great city. But he has never threatened my peace of mind in all these years, and, please God, he never will.

One thing I know, that whereas once I was a prisoner, now I am a free man.

ROYAL VICTORIA HOSPITAL, FOLKESTONE

The growth of the Royal Victoria Hospital, Folkestone, England, shows a remarkable development from an obscure institution called "The Dispensary," founded in 1846, to the spacious building which stands today.

"The Dispensary" was founded by Dr. Donnelly, a retired naval surgeon, whose portrait still adorns the walls. It was not till 1863, says the *Hospital Gazette*, in giving a brief history of the hospital, that the question of a hospital or infirmary was seriously considered. In 1864 a small house was leased wherein two of the upper rooms were made into small wards with a couple of beds for the admission, at first, of accident cases only. It was called "The Folkestone Dispensary and Infirmary."

The three objects of the institution at that time are interesting, being (1) the medical relief of persons suffering from disease and accident; (2) of the destitute poor gratuitously; and (3) of those in better circumstances upon payment. Soon a postmortem room was erected in a garden attached to the premises. The hospital carried on its work with only ten beds provided for, in rooms small and badly ventilated, until 1890, when the main block of the present commodious buildings was erected as a Victorian Jubilee Memorial. The cost was over £7,000.

The new building soon proved inadequate and the first stone of a new wing was laid on May 26, 1900, for accommodating fifty in-patients. The accommodation was temporarily doubled during the war. The growth is shown by the following figures: in 1864, 835 patients were cared for, the expenditure being £271; in 1918 there were 2,426 patients, 853 casualties, and 151 dental cases, with an expenditure of £7,395.

It is far better to give work which is above men than to educate men to be above their work.—Ruskin.

OCCUPATIONAL THERAPY, VOCATIONAL RE-EDUCATION AND INDUSTRIAL REHABILITATION

Conducted by DOUGLAS C. McMURTRIE, Secretary Institute for Crippled
and Disabled Men and MRS. CARL HENRY DAVIS, Adviser in
Occupational Therapy, 2929 Broadway, New York City

MILESTONES IN THE FIELDS OF REHABILITATION

By DOUGLAS C. McMURTRIE.

The developments that have taken place in the work of human reconstruction since the signing of the armistice warrant the belief that the experience gained during the war will constitute a permanent contribution toward a new constructive policy with regard to cripples. Rehabilitation has not only outlived "war" work, but there is every indication that it is developing into a scientific system of permanent value.

This is equally true of the two fundamental phases of rehabilitation—occupational therapy, which has for its object the restoration of the disabled man's impaired functions, and economic rehabilitation, which aims, by vocational guidance, training and placement in employment, to complete the disabled man's restoration to civil life.

The signing of the armistice was followed by the creation in this country of new reconstruction centers and by an expansion of reconstruction facilities, intended for the large number of injured soldiers who were returning from overseas for treatment. Facilities for physical reconstruction were provided in base hospitals, and there were established additional general hospitals for the work, resulting in a total of forty-nine reconstruction hospitals and nineteen convalescent centers in the training camps. The part played by occupational therapy in physical reconstruction grew steadily during the war and it has kept growing ever since. Figures for fifteen army hospitals indicate that while the total number of patients had decreased from 66,640 in April, 1919, to 24,112 in October, the proportion of patients that were enrolled in the educational service at these hospitals increased during the same time from 43 per cent to 58 per cent. In November, 1919, an appreciable proportion of the patients in general hospitals were enrolled in educational and vocational courses.

Development of Occupational Work

It would be unfair to claim that occupational therapy was a wartime discovery. The curative value of work and its importance as a factor in restoring both the physical and the mental capacities were granted long ago. Practically, however, facilities for occupational therapy in hospitals before the war were rather an exception than the rule, for they were considered more as a luxury than as a necessity. The beginnings of occupational therapy during the war were exceedingly modest. In Walter Reed Hospital a shopwork for curative purposes was established in February, 1918, and it was at first limited to the simplest kinds of carpentry. Ward occupations, intended

mainly for bed patients, consisted at first only of knitting of colored wool squares for blankets and of some machine knitting. Slightly over a year later, work in the following occupations was carried on in the wards: chairmaking, cardboard construction work, woodworking, block printing, rush seating, brush making, book binding, modelling, rug making, stenciling, mop making, designing post cards, plasticine modelling, drawing, leather work, hand knitting, frame knitting, machine knitting, weaving, basketry, bead work, making colonial mats, netting, cord work, crocheting, and embroidery. In addition to these occupations whose value was chiefly diversional, there were introduced in the wards other activities of a pre-vocational character and better calculated to stimulate the interest of the patient: stenography, typewriting, mechanical drawing, winding of electrical armatures, academic and commercial study, etc., The work in the shops now includes wood carving, engraving, jewelry, silver-smithing, watch and clock repairing, enameling, display painting, drafting, leather work, oxyacetylene welding, motor mechanics, machine shop practice, telegraphy, motion picture operation, radio operating, electrical work, making of artificial limbs, printing, carpentry, cabinet work, pattern-making, and so forth. In addition, the men are trained in gardening, farming, stock breeding, dairying, poultry raising, and hog raising. Instruction is given in commercial and academic subjects. A training school established at the hospital has prepared hundreds of reconstruction aides and occupational therapists.

The methods of selecting for every man the most suitable occupation in accordance with his injury, his mental capacity, his special abilities or disabilities, his former training and vocation, have been considerably improved. Walter Reed has become a center of study and experimenting, where uniform standards of occupational therapy have been worked out that have served for the guidance of other hospitals.

New Curative System Evolved

As a result of the war emergency it has been possible to lay the foundation of a new curative system. The effectiveness of treatment by work has been demonstrated so conclusively that it is believed that occupational therapy will become a permanent policy of the military administration of this country. The United States Public Health Service announced recently that its Hospital Division was organizing a section of physical reconstruction to direct and supervise the several branches of occupational therapy and physiotherapy in its hospital stations. The United States Public Health Service is in charge of the medical treatment of disabled soldiers after they have left the army. While the development of occupational therapy is designed primarily as a continuation of the military hos-

pitals along these lines, and while it is for this purpose that the Public Health Service is gradually going to take over from the army hospitals the equipment and the trained personnel, it may be assumed that this will be one of the ways by which the scientific results of experience gained in the treatment of disabled soldiers will be preserved and made available for the benefit of the civil population.

The strong impulse that has been given to the growth of the popularity of occupational therapy by the achievements of the last few years is manifest. When the war started there had been only a few rudimentary attempts made in this field, in some hospitals for the insane, in a few sanatoria for the tuberculous, and in two or three general hospitals, such as the Massachusetts General Hospital, or the Cincinnati City Hospital. Now, following the lead of the army hospitals, the old facilities are being expanded and perfected, new ones are being created, and the question of generalizing the use of occupational therapy in hospitals is discussed by medical authorities as a practical proposition.

An interesting development has been the establishment of courses for the training of instructors in occupational therapy. A training course for two hundred women has been planned by the National Service School in Washington. Last summer the Montefiore Home in New York City offered several scholarships in occupational therapy at Teachers' College. A school of occupational therapy is functioning at Consolation Home, in Clifton Springs, New York. In Milwaukee, a department of occupational therapy has been established at Downer College, where two courses are given, one of six, and the other of eighteen weeks. The Illinois State Department of Public Welfare has established a training school for this work. In January of this year a course was offered at the Carnegie Institute of Technology by the Margaret Morrison division.

Another indication of the progress of the idea of occupational therapy is found in the striking growth of the National Society for the Promotion of Occupational Therapy, which was founded in 1917. The first meeting of the Society was attended by six persons. At the third conference, held in Chicago in September, 1919, over three hundred persons were present. Not only had the membership substantially increased but the reports and addresses delivered at the conference proved that it was possible to formulate a number of guiding principles on the basis of the experience which had been accumulated during the last few years in the work of occupational therapy both in this country and abroad. It was especially emphasized that occupational therapy is a field by itself, and that though being related to vocational education, it has its own purposes, the first of which is the mental restoration of the patient.

Economic and Social Rehabilitation

If we now pass from the consideration of occupational therapy for the purpose of physical reconstruction to that of the economic and social rehabilitation of the disabled, we can, in like measure, report considerable progress significant for the future.

As far as the rehabilitation of disabled soldiers is concerned, an important improvement was realized by the law of July 11, 1919, amending the Vocational Rehabilitation Act. The original act, passed in June, 1918, entrusted the work of vocational re-education and of placement of disabled soldiers to the Federal Board for Vocational Education. The Board was authorized to put in training only those men whose cases had been passed

upon by the Bureau of War Risk Insurance and to whom compensation had been awarded under the War Risk Insurance Act. This dual administration was said to be responsible for the endless delays in putting disabled men in training, which practically frustrated the object of the Vocational Rehabilitation Act during the first year of its operation, and which caused widespread discontent among the disabled soldiers. Under the law of July 11, 1919, the Federal Board was relieved of the necessity of waiting for the award of War Risk before putting a man in training, and was empowered to award training upon its own responsibility to all those honorably discharged men who, in its opinion, were in need of vocational rehabilitation to overcome the handicap of their disability. The Federal Board is also obliged to provide for the maintenance of the men and of their dependents during training.

The national legislation for disabled soldiers by no means marks the limit of the rehabilitation movement. Those who, in face of the first efforts for the restoration of the disabled soldier to economic usefulness, were looking beyond the immediate and most urgent task, those to whom the achievements in the field of soldiers' rehabilitation opened a broader vista of a new public attitude toward the cripple and of a new constructive policy in dealing with the cripple, have not been disappointed in their expectations. It is certain that as a result of the successful work that has been accomplished for disabled soldiers in all belligerent countries the idea of rehabilitation has taken firm root in this country,—perhaps more so than anywhere else. We have undoubtedly entered upon the road that ultimately leads to the working out of a constructive program of economic and social rehabilitation of the disabled, irrespective of the cause of their disability.

It was the realization of this necessity of building up a permanent policy of rehabilitation that inspired, in the very first days of the war, the creation of the Red Cross Institute for Crippled and Disabled Men, as an agency for the training and placement of cripples and as a center of research and experiment in all problems related to rehabilitation. This institution, which now functions as *The Institute for Crippled and Disabled Men—The School of Another Chance*, has placed in two years about 1,800 cripples in employment in different fields. It gives instruction to crippled men and boys in printing, oxyacetylene welding, motion picture operating, typewriter repairing, enameling, nickel plating, jewelry, and the making of artificial limbs.

An international conference on the rehabilitation of the disabled, called at the initiative of the Institute, met in New York in March of last year. It was the largest meeting of its kind, and its work covered the widest range of questions. Besides the representatives of the official organizations that are concerned with the disabled soldiers in this country,—the Office of the Surgeon General, the Bureau of War Risk Insurance, the Federal Board for Vocational Education, the Red Cross, and so forth,—France, Italy, Great Britain, Belgium, and Canada were officially represented by their most prominent leaders in the field. Over 300 papers were read, dealing with the most varied aspects of rehabilitation,—physical reconstruction, artificial limbs, occupational therapy, organization of the work, vocational guidance and training, placement and employment, public education, the first legislative measures for the benefit of disabled civilians, and so forth. The Conference thus fully accomplished its object, which was to present the general conclusions of the rehabilitation work performed in the allied countries during the war, and to outline the lessons that might

be drawn from that experience for the benefit of the rehabilitation of persons disabled in the ordinary pursuits of life.

During 1919, a number of states passed laws providing for the rehabilitation of disabled civilians. As is natural in the present experimental stage, these provisions vary greatly in the different states with regard to the classes of persons covered, the scope of the work and its organization. The New Jersey law may be considered as the most adequate, as it, on the one hand, covers the largest number of people by including under the term physically handicapped "any person who, by reason of a physical defect or infirmity, whether congenital or acquired by accident, injury or disease, is or may be expected to be totally or partially incapacitated for remunerative occupation," and, on the other hand, it has learned the lesson of the European countries, namely, that, in order to be effective, rehabilitation must be organized as a single system, all the phases of which are inter-dependent and mutually complementary. Accordingly, the law puts the whole work under the control of one body, whose duty it is to reach every disabled person in the state, to induce him to take up rehabilitation, and having succeeded in that, to take all measures that may be necessary to facilitate his rehabilitation, by providing for him medical treatment, artificial limbs, vocational guidance, training, and placement. This body is a specially created state commission, which is composed of the Commissioner of Education, the Commissioner of Labor, and the Commissioner of Charities and Corrections, and of three other members appointed by the Governor, one of whom shall be a representative of the employers and one of organized labor. The Illinois and the Pennsylvania laws are in all essential provisions similar to that of New Jersey, with this difference, however, that instead of creating a special commission, Illinois entrusts the rehabilitation work to its Department of Public Welfare, and Pennsylvania to a bureau of rehabilitation established by the Department of Labor and Industry; besides this, the Pennsylvania law covers only persons injured in industrial accidents.

The California law creates an "industrial rehabilitation fund," which is to be used by the industrial accident commission to promote the rehabilitation of persons disabled in industry; to support the fund, employers are required to pay the sum of \$350 in cases of industrial accidents resulting in death when there are no surviving beneficiaries. The Massachusetts law of 1918, which is the first of its kind enacted in this country, establishes a division in the Industrial Accident Board which shall have charge of the training and placement of persons injured in industrial accidents. The division is empowered to cooperate with the State Board of Education in the establishment or maintenance of training courses. Another law, passed in June, 1919, directs the Industrial Accident Board to Investigate the various mechanical and surgical devices and methods of training and education invented during the war with a view to using them for the rehabilitation of those disabled in industry. In Minnesota a division for the rehabilitation of victims of industrial accidents is established at the State Board for Vocational Education: the Board and the Department of Labor and Industries are directed to devise a plan for cooperation in the matter of rehabilitation. Rhode Island has authorized the commissioner of public schools to provide training for any cripple who appears to be fit for rehabilitation. In Oregon, the industrial accident commission has been directed to establish an industrial and reconstruction hospital for workers injured in industrial accidents.

Federal Legislation Desired

There has been a growing demand for Federal legislation that should assist and encourage the states in making provisions for disabled civilians. The so-called Smith-Fess bill, which has been passed by both houses of Congress, was designed to meet this demand. The bill provides for an appropriation of \$500,000 for the first fiscal year, which is gradually to increase in the succeeding years up to \$1,000,000, for the purpose of cooperating with the states in the maintenance of vocational rehabilitation of disabled persons, and in returning rehabilitated persons to employment. The money, thus appropriated, is to be apportioned among the states in proportion to their population and shall be paid to them on a "fifty-fifty" basis, the preliminary condition of payment being that for each dollar of Federal money expended in a state there shall be expended at least an equal amount appropriated for the same purpose by the state. Another pre-requisite is that the state shall have submitted its detailed plan of rehabilitation to the Federal Board for Vocational Education, which is put in charge of the administration of the provisions of the law, and that the plan shall have been approved by the Federal Board. Provisions for vocational rehabilitation are to cover under this bill all persons who have been disabled, whether in industry or otherwise, and are without sufficient means to provide for their own rehabilitation.

The adequacy of some of the provisions of the Smith-Fess bill has been seriously questioned. Doubts have been expressed regarding the advisability of placing the whole work under complete and rigorous control of a central body, instead of leaving more room to the play of local initiative. In addition, it has been pointed out that it may be dangerous to entrust the work to an organization which both by its general purposes and by the character of its personnel is an educational one, as this threatens to bring about a condition where too excessive emphasis is placed upon the educational aspect of rehabilitation, to the detriment of the other phases of the work, which are no less important, such as the work of physical reconstruction which in some cases must precede all attempts to retrain the disabled person, or the economic and social aspects of rehabilitation, the selection of an occupation that shall actually secure economic independence, the placement of the disabled, the protection of the conditions of their labor, and so forth. The success of all those provisions is the only criterion of an efficient rehabilitation system.

The enactment of state legislation in favor of rehabilitation, and the fact that the question of rehabilitation has lately come up at every gathering dealing with the problems of industrial accidents and of workmen's compensation, may be taken as symptoms of a revolution that is going on in the public attitude toward physical disability. Traditionally, the term "cripple" has been associated in the public mind with the idea of dependency. It is now becoming closely associated with that of rehabilitation.

NIGHT CLINICS AT THE HEBREW HOSPITAL

The board of directors of the Hebrew Hospital, Baltimore, have opened a night clinic at the hospital which will be held every Tuesday and Thursday evening. There are a number of free dispensaries connected with the hospitals in Baltimore, but no night dispensaries for the treatment of general diseases. The visiting physicians of the hospitals will be in attendance at the clinics.

VENEREAL DISEASES AND THE HOSPITAL

Conducted by ALEC N. THOMSON, M.D.

Director, Department of Medical Activities

The American Social Hygiene Association, 105 W. Fortieth St.,
New York City

REQUIREMENTS FOR DISCHARGE OF PATIENTS FROM TREATMENT FOR GONORRHEA AND SYPHILIS

There is considerable variation in the procedure of discharging patients as cured or no longer communicable in the various clinics and hospitals throughout the United States. There is a greater variation in private practice. In order to provoke discussion, the suggestions of the United States Public Health Service and the British Ministry of Health are reproduced without comment.

It is the hope of the Editor of this department that our readers will forward to him constructive criticism upon this subject in order that he may make a compilation that will be of practical value to the hospital, dispensary, and physician engaged in the treatment of venereal disease.

Standards for Discharge of Carriers

The following instructions to directors of Government clinics operated jointly by the Public Health Service and American Red Cross in extra-cantonment zones are published with the hope that they may answer the numerous requests which have been made for Government standards for the purely medical aspect of venereal disease control.¹ (Diagnosis and treatment are not considered in these instructions.)

Standard Procedures to be Followed Before Discharging as Noninfectious.

SYPHILIS

A person infected with the *Treponema pallidum* may be considered, from a public health point of view, to be free from danger of transmitting the infection when a complete clinical examination, in which special emphasis is laid on the thorough exploration of the skin and mucous membranes, particularly those of the orifices of the respiratory, gastro-intestinal, and genito-urinary tracts, shows the absence of any area from which infectious matter can be disseminated.

When a patient is discharged as noninfectious under the above ruling, he must, of course, be plainly advised that his disease is not cured, and that although noninfectious at the time, he may subsequently become infectious to others through contact, and that the disease will probably be transmitted to his offspring until he is actually cured by a proper course of treatment carried on for a definite period. He should, therefore, be warned to remain under observation until such time as complete cure is effected.

In the light of our present knowledge the following seem to be the minimum requirements for cure: No case should be considered as cured for at least one year after

the termination of treatment and unless the following conditions have been satisfied: (a) No treatment for one year during which time there have been no symptoms, no positive and several negative Wassermann reactions. (b) A negative provocative Wassermann reaction. (c) A negative spinal fluid examination. (d) A complete negative physical examination, having special reference to the nervous and circulatory systems. (e) A luetin test may be included.

GONORRHEA (CLAP)

Males

Before discharging cases as noninfectious, the following four requirements must be met:

- (1) Freedom from discharge.
- (2) Clear urine; no shreds.
- (3) The pus expressed from the urethra by prostatic massage must be negative for gonococci on four successive examinations at intervals of one week.
- (4) After dilation of the urethra by passage of a full-sized sound, the resulting inflammatory discharge must be negative for gonococci.

Females

- (1) No urethral or vaginal discharge.
- (2) Two successive negative examinations for gonococci of secretions of the urethra, vagina, and the cervix, with an interval of 48 hours and repeated on 4 successive weeks.

(This rule is laid down as the best practical method at our disposal at present, but it is fully realized that such negative findings may not in every instance be conclusive as to freedom from infection, and the patient should be requested to return at frequent intervals for subsequent examination. In fact, all the foregoing rules governing discharge as noninfectious are tentative and will be subject to revision should the combined experience of directors of clinics or others indicate the necessity thereto.)

- (3) *Technic for procuring smears from the cervix and urethra.*—Slides should be prepared from the secretions procured from the urethra and cervix, as well as from secretions which may be expressed from Skene's and Bartholin's glands. In preparing urethral slides the finger should be inserted in the vagina and expression made on the floor of the urethra from within outward, the cotton-tipped probe being then introduced well into the meatus. In procuring smears from the cervix a vaginal speculum should be introduced and the cervix well exposed. All secretions should be mopped away from the external os before taking the smear. After the cervix is well dried, a probe, tightly wound with cotton, should be inserted into the cervical canal and rotated several times. It is exceedingly important that the secretion from the cervix shall be in reality cervical secretion and not mucous

or pus from the vagina. It is advised that two or three slides be prepared from both urethra and cervix.

TEST FOR DISCHARGE AFTER COMPLETION OF TREATMENT AND OBSERVATION

In England under the very extensive scheme inaugurated by the Local Government Board, requirements for the discharge of patients have been revised from time to time. In December, 1919, the new British Ministry of Health issued the following memorandum, their publication V. 21:

"This memorandum has been prepared by the Ministry of Health for the guidance of the Medical Officers of V. D. Treatment Centres. The Memorandum is based on suggestions which have been made to the Ministry by certain Medical Officers of Venereal Disease Treatment Centres as to the tests which in their opinion should be applied, before discharging a person who has suffered from syphilis or gonorrhoea, as having completed the course of treatment and observation. Medical Officers are asked to give careful consideration to the Memorandum, but it is not intended to suggest the invariable adoption of the methods indicated.

A. IN THE CASE OF GONORRHEA OF MALES

"Before being classed as 'discharged after completion of treatment and observation,' a patient who has suffered from gonorrhea, and is apparently cured, should have been subjected, on three successive occasions, at weekly intervals after the cessation of all curative treatment, to the tests outlined below. Before and during the course of these tests the patient should receive provocative treatment on the following lines:

- "1. He should resume his usual habits as regards alcoholic stimulants, pickles, curries, spices, and the like.
- "2. A full-sized Metal Bougie should be passed on the first visit.
- "3. Silver nitrate, 5 grains to the ounce, or some other preparation of similar properties should be instilled into the anterior and posterior urethra at the second visit.
- "4. The injection of a dose of gonococcal vaccine may be employed if the above provocative treatment has failed to produce any return of signs. The dose to be injected varies, and must be judged by experience of the focal effect of the particular make of vaccine selected.

TESTS

"Note. The patient should be instructed to refrain from micturition for at least 4 hours before being tested.

"(1) *The Urethra*.—Examination should reveal no urethral discharge, or if this is present, it should be slight in amount transparent, and free from gonococci.

"Palpation over a metal bougie should show no evidence of periurethral abscess, thickening of the urethral wall, or enlarged follicles.

"It is advised that, on one occasion at least, an urethroscopic examination be carried out in order to detect any remaining pathological condition of the urethra not disclosed by other methods of examination.

"(2) *The Urine*.—(a) Films made from threads and centrifugalized deposit should be examined microscopically for gonococci.

"(b) If no gonococci are found by microscopic examination, it is advisable that cultures should be made of the same material.

"(3) *The Prostate and Seminal Vesicles*.—Palpation of

the Prostate and Seminal Vesicles should disclose no enlargement, tenderness, thickening, or evidence of abscess.

"After these organs have been massaged—

"(a) Films should be made of their secretions recovered from the meatus, or of the deposit from Sterile Salt Solution (0.9 per cent) previously injected into the bladder.

"(b) If no gonococci are found by microscopic examination, it is advisable that cultures should be made of the same material.

"(4) *Complement Fixation Test*.—It is suggested that, in addition to the above, the patient's blood should be tested, according to the method described on page 31 of the Medical Research Committee's Special Report, Series No. 19. Unless the reaction is negative, the patient is not to be considered as cured without further tests.

"It is to be noted that, if the patient has been under treatment by vaccine, his blood serum is likely to give a positive reaction to this test in any case for about three months after cessation of treatment. A steady diminution of the strength of the reaction, as shown by repeated tests during this period, would be strongly suggestive of cure when taken in conjunction with the results of the preceding tests.

B. IN THE CASE OF GONORRHEA OF FEMALES

"A female patient who has suffered from gonorrhea, and is apparently cured, should be subjected to the tests outlined below on three successive occasions, at monthly intervals, after the cessation of all curative treatment. The tests can most profitably be carried out immediately before or after the menstrual period. Before and during this procedure the patient should receive provocative treatment on the following lines:—

- "1. She should resume her usual habits as regards alcoholic stimulants, pickles, curries, spices and the like.
- "2. Silver Nitrate Solution (15 per cent) should be applied to the cervical canal.
- "3. The injection of a dose of gonococcal vaccine may be employed if the above provocative treatment has failed to produce any return of signs. The dose to be injected varies, and must be judged by experience of the focal effect of the particular make of vaccine selected.

TESTS

"(1) *The Urethra*.—Digital pressure on the urethra should be employed per vaginam, and any discharge obtained thereby examined for gonococci. The urethra should be palpated to detect any persisting peri- or para-urethral infection. Urethroscopic examination is advised to detect abnormalities not disclosed by other methods of examination.

"(2) *The Urine*.—Should be examined as detailed for men.

"(3) *The Vagina*.—The glands of Bartholin situated on either side of the vaginal orifice should be palpated. Any secretion so expressed should be examined microscopically.

"A Ferguson's speculum should be passed, and specimens of discharge from the vagina and cervix uteri, respectively, subjected to microscopical investigation.

"Note.—If the microscopic examination detailed above reveals no gonococci, but fresh pus, it is advisable that cultures should be made.

"(4) *Complement Fixation Test*.—It is suggested that, in addition to the above, the patient's blood should be tested as recommended for men.

C. IN THE CASE OF SYPHILIS

"(1) A syphilitic patient may, unless adequately treated, transmit the disease to others at any time up to four years from the date of infection. After this period the risk of conveying the disease to others is slight.

"A patient who first comes under observation within the first four years from the date of infection should receive such treatment as, in the opinion of his medical attendant, is sufficient to render him permanently non-infectious and should then be submitted to the following tests. *These tests must be carried out subsequently to the cessation of all curative treatment.*

"(a) The blood-serum should be examined for its behavior to the Wassermann test, or any other serological test which may be approved for syphilis, within one week after cessation of treatment and once every three months thereafter until the end of the second year. It is recommended that, one week prior to the fifth and ninth of these serum tests (end of first and second years, respectively), an injection of a small provocative dose of an arsenobenzol compound, say, 0.3 grm., '606' or 0.45 grm. '914' be administered.

"(b) Once each month for the first twelve months and once every three months during the second year the whole of the skin and mucous membranes should be inspected for any return of syphilitic lesions.

"(2) In the event of the patient again becoming infected or any of the above tests revealing signs of relapse, treatment should be resumed, and subsequent to its cessation the tests (a) and (b) above should be again carried out.

"(3) In the event of the above observations and tests extending to a date which is more than four years from the last infection, the patient may for practical purposes be regarded as non-infectious. He should, however, be advised, in his own interest, to continue treatment and to submit to subsequent observation and tests until it is reasonably probable that the disease has been eradicated.

"A similar course should be followed in the case of patients who first apply for treatment at a date which is more than four years from the last infection."

SURVEY OF SYPHILIS IN RAILROAD MEN

Dr. John H. Stokes presented the results of a survey of syphilis in railroad men examined in the Section of Dermatology and Syphilology in the Mayo Clinic. It was found that in a series of 1,700 unselected cases, syphilis was present in 11.7 per cent of the railroad employees, 6.1 per cent of laborers, 3.8 per cent of business men and in only 1.5 per cent of farmers. A survey of fifty syphilitic railroad employees, confirmed by a second duplicate survey of another fifty unselected cases, showed that three-fourths of the infected men were engaged in the actual operation of trains. Syphilitic infections in these men, in spite of the fact that they are theoretically under medical supervision, had been recognized in only 56 per cent. Twenty-one per cent could give no history other than gonorrhea. Sixty-one per cent had had no recognizable secondaries. The limited value of the history of infection in detecting the presence of syphilis, may be inferred. By inference also, examination for syphilis must be brought to the patient, without waiting for him to seek advice. The blood Wassermann reaction was strongly positive in only 43 per cent and negative in 57 per cent. The cerebrospinal fluid examination yielded positive evidence of syphilis in 64 per cent in the first series and 79 per cent in the second, being evidently the more important procedure of the two. Syphilis of the nervous

system was demonstrable by various methods of examination in an average of 81 per cent of the cases. Cardiovascular syphilis was demonstrable in 19 per cent of the cases. Eighty-five per cent of the one hundred railroad men were infected before their thirty-second year. About 70 per cent of the symptoms of late complications began to appear from the sixth to the twentieth year after infection. Nearly 70 per cent of the men of this series appeared for examination before reaching the forty-fifth year and one-third between thirty-five and forty. If 85 per cent of infections occur between the ages of seventeen and thirty-one, and 70 per cent of the onset of late accidents in a fourteen-year period between six and twenty years after infection, medical supervision to prevent late complications should extend mainly to men over twenty-three and under forty-five, instead of over fifty, as is at present the custom.

The symptomatology of these cases showed how frequently the chief complaint fails to suggest the underlying syphilis. Twenty-six per cent sought relief for gastric symptoms. Twenty per cent for symptoms not suggestive of syphilis, 15 per cent for headaches, etc.

The gross neurological findings showed abnormal deep reflexes in from 65 to 75 per cent. A point of special interest was the prevalence of mental symptoms by diminished attention, irritability, amnesic attacks, etc., in 38 per cent. Dr. Stokes cited examples of the important part played by syphilis in railroad men, in the production of wrecks and accidents and in industrial compensation adjustments. The conclusion is drawn that the existing routine railroad medical examination seems insufficient to protect the public from the dangers of syphilis in men concerned in the operation of trains. He ventures three suggestions: (1) routine Wassermann tests on all employees between the ages of seventeen and twenty-five by a competent State Board of Health laboratory, to be repeated on all employees reaching thirty-two years of age; (2) annual effective examination in men between the ages of twenty-five and forty-one, rather than of men over fifty, such examinations to include more attention to pupillary reaction, and at least the fundamentals of a simple neurological examination; (3) formal educational propaganda by railroad medical departments.

COMPARISON OF DUPLICATE SURVEYS OF TWO GROUPS OF FIFTY RAILROAD MEN EACH. ACCOMPANYING ARTICLE WAS BASED ON THE FIRST GROUP

General Data

	1st series per cent	2nd series per cent
Cerebrospinal fluid positive.....	64	79
Lues, central nervous system.....	79.5	83
Lues III cardiovascular.....	18.7	20
Blood Wassermann negative.....	57	58
Blood Wassermann positive.....	43	42
Wassermann weak positive.....	4	2
Use of alcohol.....	75	61
Heavy drinkers	36	33
History of lues II unobtainable.....	62.5	60
Lues recognized at some time.....	55	57
Age of onset late symptoms—over thirty.....	78	75
Gonorrheal history positive.....	80	73
Gonorrhea only	24	19
Symptoms appearing from 6 to 22 years after infection	71	67
Per cent infected, by age of 32.....	91	81
Wassermann on men under 25 will reach.....	70	60
Sterile or pathologic marriages.....	44	50
Age on entry—patients between 35 and 40	32	36

Concerned in operation of trains.....	76	70
Concerned in operation of engines.....	36	36

Symptomatology

Gastric	28	22
Not suggestive of lues.....	18	24
Headaches and head pains.....	16	16
Cardiac	14	16
Diplopia and poor vision.....	14	10
Malaise, weakness	12	8
Shooting pains	10	20
Bladder (subjective)	10	4
Nervousness	8	4
Do I have syphilis?.....	8	6
Laryngeal	8	6
Rheumatism	4	18
Ataxia (subjective)	4	6
Girdle pain	4	4
Dizziness	2	8

Objective Examination

Abnormal knee reflexes.....	61.5	79
Abnormal Achilles	78.1	62
Rhomberg positive	38	42
Speech defect	15.7	17
Mental symptoms	38.4	38
Paresthesias	55.8	51.3
Ataxia (objective)	36.8	36.3
Bladder (objective)	47.5	20.5

NEW COMMUNITY SPIRIT OF MEDICAL MEN

Medical men, particularly in small towns, have suffered from the lack of cooperation. There may be in a town four, five, or eight or ten good doctors, one or two of whom have had good surgical training; another may be a good diagnostician, while another is better fitted for laboratory work; but because they have not pulled together, none of them have done the thorough and scientific work of which they are capable. As a result, when their good-paying patrons needed expert medical and surgical attendance, they have been sent to the cities for diagnosis and treatment. The medical men who have served in the army have seen as good surgery in tents, shacks, or in residences converted into temporary hospitals, as they have in the finest surgical amphitheatre in the great medical centers. They have not only seen as good work done, but many who never had the opportunity of doing surgery before have been trained in surgical technic by association with the masters in surgery who have been in France, and have learned that they can perform the major operations as well as their teachers.

When these men go home, they will form into clinical groups, they will build up and equip inexpensive hospitals, they will take post-graduate courses in the line of work in which they are best prepared to specialize, and they will be prepared to give their patrons as good medical and surgical attention as they could get in the larger cities. They will be more thorough and accurate in their work. For instance, the diagnosis of appendicitis will be made earlier and operated upon in the village hospital without submitting the acute appendix cases to the dangers of delay and travel that have cost many a life.—*Medical Brief.*

Science is a first-rate piece of furniture for a man's upper chamber if he has common sense on the ground floor. But if a man hasn't got plenty of good common sense, the more science he has the worse for his patient.—Holmes.

DO MOVIES HURT THE EYES?

"The fact that millions of people go to motion picture shows throughout the United States daily without experiencing any discomfort to their eyes, or that such eye trouble that is found is not traceable to 'over indulgence' in the movies, would seem to indicate that motion pictures are not injurious to the vision," says the United States Public Health Service.

"It is true, of course, that some people do experience a certain amount of eye strain at a motion picture, but in these cases the trouble appears to be due to an ocular defect rather than to the motion picture. Such persons should therefore have the eyes examined by a competent eye specialist, for it is quite certain that the same person would find even more discomfort in the same period of concentrated reading. Eye discomfort in the movies should be regarded as a danger signal and should lead the sufferer to the doctor's office for an examination."

FARMER JIM SPEAKS WITH CONVICTION

"H'lo Jim."

"H'lo yourself, Sam. What you looking so glum about?"

"O, it's this here dinged rheumatism that has got in all my arms and legs. I can sceerce feed myself let alone do my plowing."

"Now, that's too bad, Sam. Whyn't you see the doctor?"

"Course I seen him. The old fool told me to go to the dentist and have my teeth x-rayed. Talk about graft. They can always think up some new way to get the money away from us farmers. Mebbe I look foolish, but not that bad. My arms and legs ache like sin and he tells me to x-ray my teeth. Huh!"

"Wal now Sam. I wouldn't be so sure about that. You know my old woman, Mary? Well, sir, she was just as bad as you, only worse, and I took her to the doctor. That was three years ago, and he told us the same tom-foolishness he told you. Well, I got mad, same as you, and said I wouldn't spend any money for no hifalutin' x-ray.

"But Mary, she wanted me to try it and she had some egg money, so she went. She had a lot of decayed teeth and some bad matter at the roots that was poisoning her, so the dentist said. Well, Mary hasn't had a sick day since she had those abscesses drained and her teeth fixed. It sure was a good investment for Mary."

"You don't say so, Jim. Well now if it don't beat all how there is something in all these new-fangled notions.

"I was just as mad as could be when the kids come home from school with a note from some nurse saying Molly's headaches and nervousness mabbe was caused from her weak eyes; and that Sammy's tonsils was full of matter and those and his adenoids caused the earaches that kept us all night. He couldn't do nothing in school neither and course we knew the kid wasn't healthy, but it didn't seem reasonable.

"Well, we thought we would try fixing those things up, so people wouldn't say we thought more of the hogs than we did of the kids and then, too, we thought mebbe we could prove that nurse was wrong; and by George, do you know those kids haven't had a pain since, and Sammy has caught up in school, too. Say, what was that dentist's name?"

"All right, so long, Jim."

"So long, Sam."

He that hath a trade hath an estate, and he that hath a calling hath an office of profit and honor.—Franklin.

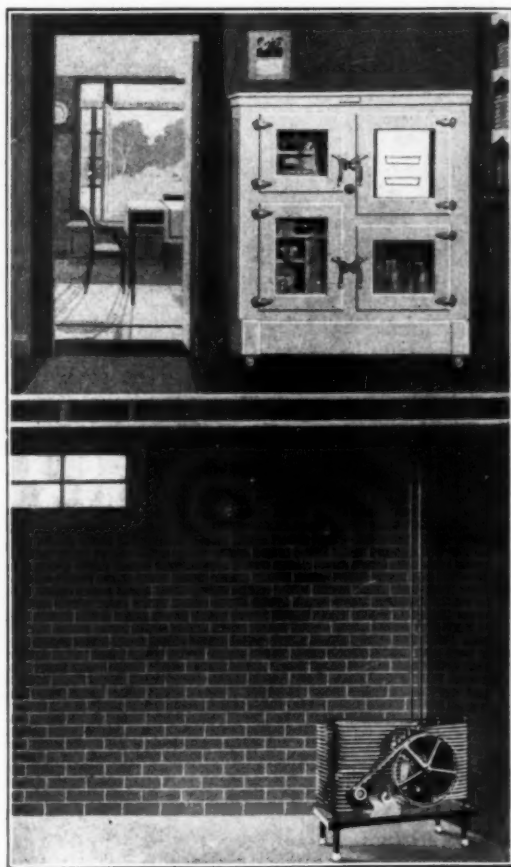
PROGRESS IN EQUIPMENT AND OPERATION

Conducted by FRANK E. CHAPMAN

Superintendent, Mount Sinai Hospital, Cleveland, Ohio

ELECTRICAL HOUSEHOLD REFRIGERATION

Mechanical refrigeration, as applied within the last decade in household refrigeration, has proven very successful. Based on the scientific fact that the rapid evaporation of liquid substance lowers the temperature by



Electrical refrigeration system, showing condenser and motor in basement.

taking up heat from the surrounding atmosphere, this system of refrigeration involves the use of a continuous refrigerating agent. It has been found that this means of producing low temperatures is superior to the ice method, not only as the cold produced is relatively dry, but also as the temperature can in this way be kept unfluctuatingly low. Science has demonstrated that steady, unfluctuating, dry cold is essential in the proper preservation of foodstuffs, because only by this means are the micro-organisms present in all food products rendered inactive.

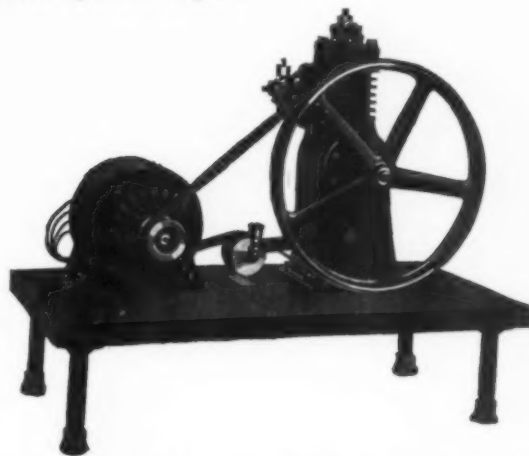
In a recently introduced system of mechanical refrigeration the two main features are a refrigerating element and a condensing element, together with their con-

necting pipes. The refrigerating contrivance consists of a brine tank and thermostatic control, and goes into the ice chamber of the refrigerator. The condensing apparatus consists of a pump, motor, and condenser coil, and is installed in the basement, or other convenient spot. The connecting pipes go through the floor.

The brine tank, which comes in three sizes, is filled with calcium chloride, in which are immersed the expansion coils. There are chambers in this tank for the making of small cubes of ice for table use.

The refrigerating agent used is sulphur dioxide. In the expansion or refrigerating coil, which is immersed in the brine tank, evaporation of the sulphur dioxide takes place. (The brine solution will not freeze at the ordinary temperature, as its freezing point is much lower than that of water.) After evaporation in the refrigerating coil, the sulphur dioxide is in a gaseous state. It is necessary, in order to use it again, to return it to a liquid state. This is accomplished by cooling and compressing. Thus the gas is forced into a compressor driven by a one-fourth-horsepower electric motor, which pumps the gas from the coils of the brine tank into its cylinders, where it is compressed and forced into another coil, called the condenser.

The condenser, a coil of copper tubing wound spirally on a rectangular form, is air-cooled. The condenser removes the heat acquired by the sulphur dioxide in compression, and also that absorbed from the interior of the refrigerator. Cooling is the final step in liquifying the refrigerant, as, owing to the increased pressure and the reduction of temperature, the sulphur dioxide reassumes its liquid form and again passes into the evaporating coils of the brine tank—the same cycle of operations being repeated again and again.



Electric motor which pumps the sulphur dioxide, the refrigerating agent.

In order to render mechanical refrigeration successful in household use, two devices, a thermostat and an automatic expansion or regulating valve, had to be perfected. The thermostat, which is affected by the slightest change in temperature, is the control opening and closing the motor circuit automatically with the rise and fall of temperature. It is this device which causes the motor and compressor to operate as the temperature rises above a certain fixed point, and to cease operating with the drop in temperature to its normal refrigerating point. In this way the electric motor operates only one-third or one-fourth of the time—or from six to eight hours a day.

The action of the expansion valve is very simple. Operating on the balanced pressure principle, the valve controls the amount of liquid refrigerant entering the evaporating coils in the brine tank; it permits only sufficient sulphur dioxide to enter the coils as will produce the required amount of cold.

This electrically operated home refrigerating unit is meeting with success in its use in hotels and homes, and should prove invaluable in hospitals, as its introduction means the avoidance of all the inconveniences encountered in the use of ice.

ELECTRIC DISH-WASHING MACHINE

The porcelain enamel electric dishwashing machine, made with or without combination sink, is constructed of cast iron, well enameled. The power is derived from a one-fourth-horsepower motor, which revolves two perpendicular reels, thus throwing the water to the center of the bowl, while the dishes remain perfectly still.

The machines are constructed with the fewest possible parts, thus avoiding the expense encountered in the use of complicated machinery, due to breakage and repairs. All gears and wearing parts are enclosed and run in oil. The use of this dishwashing machine is not only more sanitary than the dish mop method, but involves a decided labor saving.

NEW MEASUREMENT OF METABOLISM

KATHARINE BLUNT, University of Chicago.

Studies of energy production have been made much easier and simpler since Benedict¹ published the account of his new portable respiration apparatus. The older methods for measuring energy metabolism, long used with brilliant success by Benedict and his co-workers in Boston, and by DuBois and others at the Russell Sage Institute of Pathology, involve elaborate apparatus and require very specialized skill on the part of the experimenter, and often considerable time and patience from the subject experimented upon.

The new apparatus is less expensive and much easier of manipulation, since it requires no gas analysis. In using it the subject breathes through a mouthpiece connected by a rubber tube to an enclosed volume of oxygen-rich air contained in a movable cylinder, or spirometer,

while the carbon dioxide produced is absorbed in soda lime. The air in this closed circuit is kept moving by a small blower inside the apparatus, so that breathing is quite normal. To determine the volume of oxygen consumed, it is merely necessary to note the diminution of volume of air in the cylinder. The calories are calculated from this. In 15 minutes, on a woman subject, the oxygen consumption may vary around 3,000 cc., so that observation periods as short as this give a very fair degree of accuracy. The carbon dioxide may also be determined by weighing the soda lime jar before and after an experiment, but as the jar is large and the weight of carbon dioxide small, the observation requires a special balance, and it is hardly necessary for calculation of calories. Carpenter,² in a series of experiments comparing results on "untrained subjects" with this apparatus and others in the Nutrition Laboratory, draws favorable conclusions as to the accuracy of the new method.

The possible extent of the use of the apparatus, both for teaching and research, cannot be even suggested. We can now demonstrate to our students and have them find for themselves with vividness, many of the points in

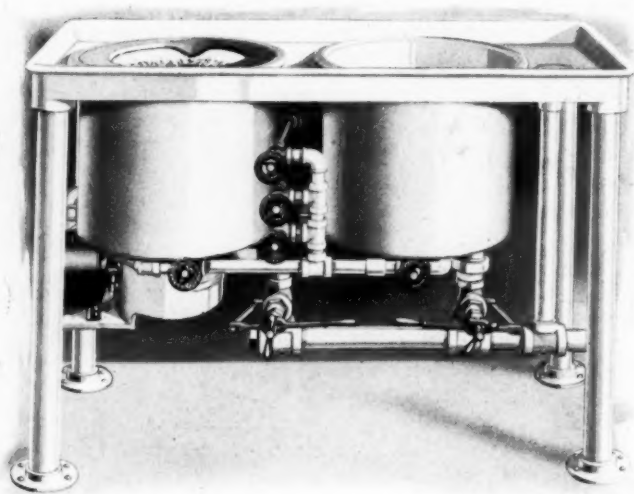
metabolism that we have heretofore been merely talking about. First, of course, are the questions of basal metabolism and its variation under different conditions. The hardship in this determination—it being necessary for the subject to come to the laboratory without breakfast, and lie absolutely quiet for a preliminary half hour's rest and for the observation—is not enough to check research. Moreover, the New York workers³ report that a light breakfast of two pieces of bread and butter, a lump of sugar and 60 cc. of milk, without coffee,

has no effect on the basal metabolism after two hours, so that mid-morning observations are feasible. Other questions for investigation by demonstration are to the effect of food, of coffee, of exercise, of household tasks—anything that can be done with a subject lying, sitting or standing, attached to the mouthpiece of the apparatus.

Clinicians are making increasing use of determinations of basal metabolism in the diagnosis of disease, especially hyperthyroidism.⁴ Abnormal basal metabolism is probably the best indication of the presence of disturbed thyroid secretion, and such diagnosis is therefore made possible in many more cases by the simplicity of this new apparatus.

The knowledge of man is as the waters, some descending from above, and some springing from beneath; the one informed by the light of nature, the other inspired by divine revelation.—Bacon.

1. Benedict, Boston Med. and Sur. Jour., 178, 667, 1918.
2. Hendry, Carpenter, and Emmes, Boston Med. and Sur. Jour., 181, 285, (Sept. 4), 1919; *ibid.* 334 (Sept. 11), 1919; *ibid.* 368 (Sept. 18), 1919.
3. Soderstrom, Barr, and DuBois, Arch. Inter. Med., 221, 613, 1918.
4. McCaskey, Jour. Amer. Med. Assn., 73, 243 (July 26), 1919.



A serviceable electric dishwashing machine, having a capacity of 6,000.

PORCELAIN PLUMBING FIXTURES

An inspection of a great many hospitals will illustrate graphically, the trouble that is experienced by all, i. e., the proper care of metal portions of plumbing fixtures.

Metal fixtures when they are clean, are very sightly. The problem of keeping them clean, however, is an extremely acute one.

Some effort has been made to develop porcelain fixtures. The disadvantage in the past, has been that they have crazed and have not been durable.

There is now on the market a quick-pressure basin cock,



The absence of nickel plating should especially commend this basin cock to hospitals.

which is illustrated by the accompanying cut. The spout and handle of this basin cock are made of a molded vitreous china of a special composition which the manufacturers claim, gives it unusual strength, coupled with permanent and immaculate whiteness and freedom from craze and checks. The mechanism is made of brass.

This basin cock has been subjected by the manufacturers to the following tests:

It has been immersed in cold water and then immediately put in boiling water.

It has been run over with a heavy automobile.

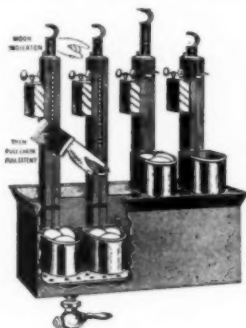
Hammered with a brass bar until the bar itself was badly dented.

Dropped six feet on a wooden floor.

The fact that there is no nickel plate to be scoured off and that vitreous ware can be kept clean more easily than any other substance, should give this basin cock an especial appeal to those interested in the equipment of hospitals.

ELECTRIC EGG BOILER

An electrically operated egg boiler recently put on the market is operated by means of a 1/200-horsepower motor. The eggs are put in the basket of the boiler, lowered into



An electrically operated device which boils eggs exactly the time indicated.

the boiling water, and the indicator is set for the desired length of time. Each timer has direct contact with the motor and operates automatically as soon as the eggs are lowered into the boiler; it disconnects contact with

the motor when the eggs have boiled the desired time. The eggs are then automatically lifted out of the boiling water.

In the larger egg boilers one or more timers set for from one-half to twelve minutes can be operated at one time, the motor operating as long as eggs are being boiled. Either gas or steam boilers are supplied. In the small egg cookers three eggs may be cooked at the same time; in the larger, as many as one and one-half dozen.

CANADIAN MENTAL HYGIENE PROGRAM

As a result of the phenomenal development in psychiatry attained during the war, and the growing realization that mental factors play a great part in causing crime and delinquency, Canada has launched a mental hygiene campaign of broad scope. Since the organization of the Canadian National Committee for Mental Hygiene in 1918, facts concerning the past treatment of mental cases have been brought to light, and statistics concerning the facilities for mental treatment have been gathered. With this information as a basis for action, the provincial governments have undertaken plans for more scientific treatment of mental patients, and the erection of up-to-date institutions to care for persons suffering from mental abnormality or deficiency.

The report of the Committee for Mental Hygiene on the situation in Manitoba, showed that conditions had been very bad. The asylums were custodial institutions, and the care and treatment given the mentally defective were mediaeval. The patients were herded together, with no attempt at classifying or curing. The institutions had no laboratories and were greatly understaffed. With a view to changing these conditions an up-to-date system for caring for the insane and mentally defective has been inaugurated. In connection with the Winnipeg department hospital a modern psychopathic department has been established, through which all cases must pass for observation and diagnosis before being admitted to or discharged from any provincial institution.

The bad conditions found by the committee in Manitoba were typical of those in British Columbia, Ontario, and Quebec. The situation in Nova Scotia, New Brunswick, and Prince Edward's Island has been equally bad. However, as a result of the Committee's reports, British Columbia is planning to build modern institutions with the latest scientific equipment to care for mental patients. Ontario is building a reception hospital in the city of Toronto for admission of all patients suspected of suffering from any mental deficiency, and the other provinces are making plans to provide better accommodations and treatment for the mentally deficient.

In health there is liberty. Health is the first of all liberties, and happiness gives us the energy which is the basis of health.—Amiel: Journal.

Renewed impetus has been given to the work of hospital standardization by a gift of \$75,000 from the Carnegie Corporation to the American College of Surgeons. This is the second gift made by the corporation to the college for hospital standardization; the amount of the first, made in 1916, was \$30,000.

That man may last, but never lives
Who much receives, but nothing gives,
Whom none can love, whom none can thank
Creation's blot, Creation's blank.

—Gibbons.

FOREIGN CORRESPONDENCE

THE FUTURE OF BRITISH HOSPITALS

From Our Correspondent

London, March 10, 1920.

He would be a bold man or one gifted with remarkable sagacity, not to say foresight, who should predict with any degree of accuracy the future of the British hospitals. However, there appears to be agreement on all sides that radical changes must be made in their management and in the scope of their services if they are to be of the benefit to the entire community which it is obviously intended that they should be. It must be borne in mind that hospitals are not meant to serve only for the treatment of the sick poor, as seems to be the popular view in Great Britain. They were undoubtedly founded for this purpose; but times have altered. Hospitals, however, have not altered with them, or at any rate, have not kept pace with the changes. Now hospitals are or should be for the treatment of all stratas of society.

Prevention of Disease, Objective

Mr. E. W. Morris, house governor of the large hospital in the crowded East End of London, known as the London Hospital, has pointed out recently in the *Daily Telegraph* that—

(1) There are other people than the "sick poor" who need treatment. Most of us are too poor, when seriously ill, to afford the expense of the modern methods used for the diagnosis of disease and the equipment necessary for the successful treatment of disease.

(2) To consider the "sick poor" only is much too narrow an outlook. We have to consider the greater and more difficult problem of the prevention of sickness.

(3) The cure and the prevention of disease are not to be considered from the point of view of hospital treatment only. The homes, the conditions of life, the conditions of labor, the conditions of recreation are as important as the hospitals.

(4) You cannot dissociate the diagnosis of disease, the cure of disease, or the prevention of disease from the education of the medical student who is to carry on the work in the next generation. This signifies that in the prevention of disease, the medicine of the future, the hospital must play its due part.

It is notorious, as has been stated in a previous letter, that the hospital accommodation in Great Britain is very inadequate. The hospitals are frequently situated inconveniently. Their value is immensely minimized because they admit only most serious cases. If the province of a hospital is the destruction of disease in man, as is said to be the aim of the hospital of the future, there must be a change in the kind of case admitted. In Great Britain hospitals are charitable institutions, and as their beds are hopelessly too few for the needs of the population, the

cases are admitted by selection; consequently, the worst cases only are taken in, and the less ill are sent away. If the object of treatment is mainly preventive the hospital's care should be given in the earlier stages of serious disease where a cure is possible.

Mr. Morris's scheme of reform, however, is not by State Control, or even by having pay hospitals or pay wards, (which method appears to be one of the most obvious ways of getting out of the difficulty, though one to which Britishers are generally averse.) Mr. Morris is in favor of a continuation of the voluntary system, with certain modifications, and, moreover, is opposed to an immediate extension of the service of the hospitals in London and in the other overpopulated centers. In his conception the hospital is a well-organized and equipped "clearing station" with its laboratories and special research departments, in which disease should be fought vigorously with all the resources of modern science. "It has to investigate, fight, and if possible destroy the disease from which the patient is suffering, both in that patient and in all other men and women who have, or may have that disease, just as smallpox and diphtheria and hospital gangrene have been fought and have nearly been beaten." A point that Mr. Morris makes is that according to existing methods of hospital treatment, the patient is kept in bed for a considerable time after he is out of danger, or after the physician or surgeon has done all he is able to do. Mr. Morris is of the opinion that after a week's treatment, provided improvement is insured, the patient should be moved elsewhere and the expensive equipment used for another patient. Thus, each hospital bed could serve at the same standing charges at least three times as many patients during the year.

Country Annex for Hospital

The patients should be removed in comfortable motor ambulances to a country annex of the hospital, situated about twenty miles distant, where the air is purer, land is cheaper, living is less costly, and the surroundings are better calculated to assist the work of recovery. The houses in this country retreat, the home of healing for body and mind (for it must not be forgotten that there is an intimate relationship between body and mind), would be huts or bungalows, with flower gardens and vegetable gardens, offering charm and rest to the eye, and in some cases, useful occupation. The future aim must be to make existence pleasant for the recovering patient. And Mr. Morris rightly lays stress on the fact that if it is beneficial to treat adults thus, it is by far more important in the case of children. Happily, a scheme is now afoot with respect to the large hospital for sick children in Great Ormond Street, London, to found a garden city for the sick children of London.

BOOK REVIEWS AND CURRENT HOSPITAL LITERATURE

FAULTY HYDROTHERAPEUTIC INSTALLMENTS*

That physicians do not obtain the best results from Hydrotherapy has so often come to the attention of the author that he has undertaken in this volume to direct attention to some of the causes of failure and the facile methods of removing them, not only in chronic, but in acute and sub-acute ailments.

Recognized and unrecognized failures in ambulant cases, treated in institutions, are often traceable to:

1. Faulty installments planned by otherwise capable and even eminent architects and plumbers, who appear to have no conception of the aims of hydrotherapy. Most of these are well informed in other branches of their profession, but either fail to obtain authoritative counsel or, singularly enough, decline to follow it.

To assist in remedying this serious condition, the author has introduced a chapter on hydrotherapeutic installments, which is novel in works on hydrotherapy. Correct plans of existing institutions which have been in successful operation for many years are presented, and defects, gathered from actual observation, are briefly stated to serve architects as guides in the future. As such guides have hitherto been absent, the constructors of the cited faulty installments cannot, as is pointed out, be criticised, except in some instances for obstinacy, which has cost their clients much loss of time and money.

Lest architects and plumbers may regard my strictures upon their desire to use their own judgment in the construction of hydrotherapeutic installments as unwarranted, the following instances from actual observations may serve to exonerate me, especially since most of those errors were committed by men of the highest repute in their calling.

(a) The author consented to demonstrate the douche in one of the neatest douche rooms that have come under his observation. He discovered a sudden rapid lowering of the water temperature in time to prevent harm to the patient. On inquiry, it was ascertained from the engineer that the hot water-supply, pumped with an initial pressure of 149 pounds, was reduced to a very low (unascertainable) pressure after passing through the wards, bath-rooms, etc., of the entire hospital before it reached the douche table. The cold water-supply of the latter has its source in the city main at 40 pounds pressure. The attendant remarked that whenever water is drawn in the kitchen the douche thermometer jumped up and

down very strangely. And yet this douche room has been in use for ten years, having been installed by one of the great plumbing firms of this country. The saddest part, showing indifference to correct hydrotherapy, is that the plans which the writer furnished by request for correction of these serious faults have not been adopted because of a few hundred dollars' expense. Some day a severe scalding accident will cost much more than this outlay.

(b) A very prominent plumber who had the contract for a hospital of 200 beds assured me that he would build a cooling apparatus for the douche table without my assistance. This was completed during my absence. A double box, the interspace filled with charcoal, was lined on the inside with 1-inch galvanized iron pipes. The box was to be filled with ice, on the pattern of a beer cooler. The result was that the initial pressure of 40 pounds was reduced by friction to 10 pounds, entirely inadequate for the douche. On my suggestion three kitchen boilers of 60 gallons were connected and laid upon the bottom, the first connected to the water main, the last with an inch pipe, leading to the douche table. Blocks of ice laid upon these cylinders kept the water at the temperature required to reduce the city water to any temperature required for douches.

(c) In several hospitals supplied by Mr. Frank Richter, who is one of the few plumbers I have met understanding hydrostatics, the engineer was so insistent upon avoiding a separate water-supply for the douche room that Mr. Richter was overruled by the Building Committee, whose aim was to save expense. Some of these hospitals were compelled to change their plumbing later at additional expense and long loss of use of apparatus. In one of the largest hospitals for insane in the country the douche was practically abandoned because the temperature fluctuated dangerously, as I learned from personal inspection ten years later.

(d) During the construction of one of the largest tuberculosis hospitals in this country I discovered accidentally that each floor of each of six pavilions had been provided with a douche room. Being requested by the commissioner to meet the architect, I inquired about these rooms. He answered that as his intention had been to build the most perfect institution in the country, he visited European sanatoria, in all of which he found more or less complete hydrotherapeutic equipments, which were absent in this country. In order to furnish the physicians every convenience and facility for the treatment he planned one douche room for every floor containing 25 patients, to afford easy access to the worst cases. When the author informed him that the latter were unfit for the douche, and that this hospital was intended chiefly for second and third stage cases, he exclaimed, "Why didn't the great experts in tuberculosis who inspected and criticised every-

*Advanced Sheets from the Preface of "An Epitome of Hydrotherapy For Physicians, Architects, and Nurses," by Simon Baruch, M. D., L. H. D., Hydrotherapist, Sea View Hospital; Consulting Hydrotherapist, Bellevue Hospital; Consulting Physician, Montefiore Home and Knickerbocker Hospital; formerly Professor of Hydrotherapy, College of Physicians and Surgeons, Columbia University, N. Y. C.
By courtesy of Wm. O. Saunders Company.

thing else inform me of the fact? They all approved of the douche rooms." The latter were almost finished when I saw them, but the apparatus, though contracted for, had not yet been installed. Two douche rooms have sufficed during the past ten years for all the work in this line. Here an outlay of \$100,000 could have been saved.

(e) The medical directors of a city hospital in the West containing 100 beds requested the author to lay out a large basement, the plan of which was finished, for hydrotherapy. On inquiry regarding the number of outdoor patients, which are the chief, if not only, patients for the douche, it was learned that the average daily number was 30, including all diseases. On the author's advice the hydrotherapy room was abandoned.

(f) In two newly constructed pavilions of a large state hospital a fine hydrotherapeutic equipment is installed. The douche room is 20 feet square, with tile floor, containing a useless shampoo table at one corner and a douche table and circular douche occupying about 6x20 feet on the opposite side. Despite this ample space, the hot-air cabinets, three in number, are placed in an adjoining room 8 inches below the level of the douche room in such manner that patients walk from them in a nude state, often freely perspiring, past a corridor 50 feet long, in which drafts must always prevail. And no cabinets for undressing are provided. These fine rooms were not in use one year later when I saw them and recommended a change of plan.

(g) A trustee of a great hospital for research requested me to plan a hydrotherapy installment in order to make it "up to date." The author advised against it, because the number and character of cases would not warrant the outlay. The architects, however, called on me, and I laid out a small equipment, dwelling especially on the necessity that the continuous (hammock) baths, which I regarded appropriate for such an institution, be located near the wards in a separate room. What was my astonishment when I discovered two hot-air cabinets directly adjoining the door; these were separated by a marble wall from the continuous bath and the douche table on the opposite side of this small room. This arrangement necessitated the passage of all patients coming from the hot-air cabinets past the continuous bath-tub to the douche table. The patient in the tub, which is chiefly used for mania and delirium tremens, could be seen, and see every other patient and hear the noise of the douche flowing, etc.

(h) The author was requested by the Surgeon-general to render personal aid to the commanding officer of a base hospital in the arrangement of the douche apparatus, over which several expert plumbers and officers had been struggling. The architect had failed to provide a door sufficiently large to admit the electric cabinet, which was standing on the porch. The douche room (20x24) was provided with sufficient windows to serve as a green-house, no dressing cabinet had been provided. The hammock bath rooms, in which maniacal cases were to be treated, were without doors and located opposite a toilet and on a passageway through which all patients had to pass from the ward to the douche room. The author advised a space 6x20 feet on one side of the douche room after several windows were closed. This arrangement furnished space for the electric cabinets and the drying cabinets. Dressing cabinets were provided in the adjoining room that had been designated for massage tables. Of course, a door was enlarged for passage of the electric light cabinet.

(i) One of the most eminent firms of architects in this city sent its engineer to the author to examine plans for a hydrotherapeutic installment which had been laid out by a hospital construction expert who had previously con-

sulted with me. Among other incongruities it was discovered that the room for undressing was located 70 feet from the douche room, and that patients would be compelled to walk the distance nude and pass through the rest-room. No one who understands the principles of hydrotherapy would provide a rest-room because the reaction obtained from the douche would be lost. All patients must go into the open after treatment. In this case the author's suggestions had been disregarded by the expert, who had visited him to obtain them several years previously.

(j) Learning that in a large clinic the director and engineer had decided to economize by connecting the douche table with the hot water supply of the building and removing entirely the wornout separate heater that had provided water at an equable temperature twelve years, I sent Mr. Frank Richter to urge reconsideration. Mr. Richter wrote me: "I labored for an hour to convince the chief engineer and Mr. —, but failed to convince them."

It would not seem possible that any intelligent individual much less an engineer would fail to recognize the fact that when hot water is drawn from the common reservoir of a large building the temperature and pressure cannot be as stable as when drawn from a special tank connected with the main cold water supply.

The great need of these illustrated brief comments is emphasized by the fact that the faulty constructions mentioned were the product of the highest type of architects.

Aside from the fact that only a perfectly constructed installment may be dependable, another important consideration demanding strict following of the plans, is briefly outlined in the work, viz., When the apparatus ceases to functionate with precision or any part breaks by reason of imperfect material or construction, its repairs, sometimes involving removal, involve loss of time, during which treatment must be abandoned.

As has been mentioned, failure may be due not to the remedial agent employed, but to the manner of its employment, or the faulty construction of the apparatus. The same care is demanded in selecting the latter that is practised in the selection of correct surgical instruments and pure drugs.

CHILD WELFARE IN KENTUCKY. An Inquiry by the National Child Labor Committee for the Kentucky Child Labor Association and the State Board of Health. Under the direction of Edward N. Clopper, Ph.D.⁷

Kentucky has recognized the importance of protecting its children from premature employment and has enacted a labor law with standards higher than those of neighboring states, says Mrs. Loraine T. Bush, in *Child Welfare in Kentucky*. But are the children deriving from it all the benefit the state intends they should?

Indifference and lack of knowledge of the child labor law on the part of employers in certain towns are amazing. Abuse in the matter of permits largely defeats the child labor law. Except in Louisville, documentary evidence of age is rarely filed. Physicians certificates do not record, as required by law, the height and weight of the children receiving work permits.

The recommendations urge the adoption in Kentucky of the standards of the Children's Bureau with Periodical medical examination of all working children under eighteen years of age. Provision for inspection and enforcement under labor laws is essential for effective work.

7. Published by National Child Labor Committee, 105 E. 22nd St., New York City.